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PUBLISHED QUARTERLY UNDER THE AUSPICES

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NEW YORK HOSPITAL

EDITED BY

PERCY DUNN, F.R.C.S.

Editorial Secretary:—L. A. BIDWELL, F.R.C.S.

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(Nos.—January, April, July, October, 1896)

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REPORT FOR THE SESSION.

Presented by the Council at the 14th Annual Meeting, July, 1896.

In presenting the Annual Report for the Fourteenth Session the Council have to congratulate the members on one of the most successful years in the history of the Society. The Society now numbers 424 members. The number of new members, 89, is the largest on record, and exceeds by 67 the number elected in the previous session.

The Council regrets to have to report the deaths of four members, M. Louis Pasteur, Hon. Member; Dr. J. Chippendale, Original Member; Dr. J. Staples, and Dr. Launcelot Andrews. Three members have resigned, and four names have been struck off the list under Rule 27.

The Session has been specially marked by the establishment of a Quarterly Medical Journal in connection with the Society, and it is believed that this can be carried on at no greater cost to the Society than that of the old *Transactions*.

Thanks to the efforts of the Treasurer, the Society's finances are in a satisfactory condition, and the donation of £5 5s. to the West London Hospital has again been given. The Cavendish Lecture was delivered by Mr. T. BRYANT, on June 17, in one of the new wards of the Hospital, and after the Lecture the President and Council again gave themselves the pleasure of entertaining the members at a Conversazione at which over 100 were present.

The Annual Dinner was held at the Café Monico on May 20, and nearly 100 members and guests attended.

The Council have much pleasure in expressing the hearty

thanks of the Society to the House Committee of the West London Hospital for the use of the Board room, and also for the use of one of the new wards for the Cavendish Lecture. They also wish to express their thanks to the Lady Superintendent, Miss Hardy, and Mr. R. J. Gilbert for their courtesy and kindness.

The following papers and cases have been brought before the various meetings:—

PAPERS.

PRESIDENTIAL ADDRESS.—The Advantages of Oxidation.

DISCUSSION ON GASTRIC ULCER.—Opened by Dr. DONALD HOOD and Mr. BRUCE CLARKE. Discussed by Dr. S. TAYLOR, Dr. ALDERSON and Dr. CAMPBELL POPE.

ADJOURNED MEETING ON GASTRIC ULCER.—Opened by Mr. KEETLEY. Discussion carried on by Drs. CLIPPINGDALE, SNAPE, PEARSON, ALDERSON and ABRAHAM, Messrs. S. EDWARDS, MCADAM ECCLES, LLOYD, BIDWELL and LAWRANCE.

Dr. ARCHIBALD GARROD.—The Rationale of the Accepted Treatment of Gout.

Dr. F. J. MCCANN.—The Diagnosis of Gonorrhœal Affections.

Dr. A. H. W. CLEMOW.—Observations on the Treatment of Enterocolitis in Children.

Dr. THUDICHUM.—The Chemistry of the Carbo-Hydrates and Albuminoids, with special reference to Diabetes.

Mr. HERBERT MENZIES.—Notes on a Case of Scurvy Rickets.

Dr. SYDNEY BONTOR.—The Treatment of Whooping Cough.

Mr. P. MAYO COLLIER.—Some Effects of Chronic Nasal Obstruction.

CLINICAL CASES.

Dr. SEYMOUR TAYLOR.—Two Cases of Myxœdema.
Symmetrical drooping of Pinnæ.
Ludwig's Angina.

Mr. BIDWELL.—Sclerosis of Superior Maxilla.
Salivary Fistula.
Tumour of Tongue.
Gummata of Elbows.

Mr. McAdam Eccles.—Multiple Exostosis.
Compound Fracture of Humerus.
Rodent Ulcer of Nose.
Three Cases of Osteo-arthritis.
Double Hare Lip in Adult.

Mr. Keetley.—Operation for Undescended Testis.
Temporary Colotomy.
Rodent Ulcer.

Mr. Pardoe.—Milk Spot on Heart.

Dr. Chapman.—Sporadic Cretinism.
Multiple Lipomata.
Premature Obesity.
Œdema of Leg.

Dr. H. Sutherland.—Bronzed Skin.
Early General Paralysis.

Mr. A. L. Scott.—Cardiac Bruit.

Mr. S. Edwards.—Nephro-lithotomy.
Lithotrity.
Skin Affection of Anus.
Induration of Lip ? Epithelioma.

Dr. Dickman.—Sclerodermia.

Dr. Clemow.—Rodent Ulcer.

Dr. Morgan Dockrell.—Ulerythema.

Dr. Abraham.—Extensive Acne in Infant.
Lymphangioma of Shoulder.

Dr. W. Hunter.—Deformity of Chest produced by Bicycle Running.

PATHOLOGICAL SPECIMENS.

Mr. McAdam Eccles.—Section of Rodent Ulcer.

Dr. S. Sunderland.—Glandular Polypus of Cervix Uteri.

Mr. S. Edwards.—Renal Calculi.

Mr. B. Clarke.—Ditto.

Mr. Bidwell.—Ditto.

Signed on behalf of the Council,

A. SYMONS ECCLES, *President.*

L. A. BIDWELL,
NEVILLE WOOD, } *Hon. Secretaries.*

BALANCE SHEET FOR FINANCIAL YEAR ENDING MAY 31, 1896.

Dr.	£ s. d.	£ s. d.
To Balance in hand from last Account		68 3 6
„ Subscriptions, including arrears, received	93 5 6	
„ Subscriptions paid in advance	3 5 0	
„ Balance from Dinner Fund, 1895	0 19 6	
		97 10 0
„ Subscriptions in arrear, May 31, 1896	24 5 0	
„ Subscriptions in arrear previous to May 31, 1895 ..	20 0 0	
		44 5 0
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Cr.	£ s. d.	£ s. d.
By Baillière, Tindall & Cox, Printing and Publishing Vol. vi. Transactions		52 2 3
„ Grant to West London Medical Journal		12 10 0
„ Printing and Stationery :—		
Messrs. Churchman	18 3 8	
„ George Pulman & Sons	2 19 2	
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		22 9 10
„ Postage, &c. :—		
Mr. Lake, Session, 1894-95	0 10 0	
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Mr. Bidwell, Session, 1895-96	2 5 0	
Editorial Secretary, Postage of Agendas	1 9 9½	
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		15 1 6½
„ Refreshments :—		
Grocer	3 9 11	
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		4 7 9½
„ Servants' Wages		4 2 6
„ Hire of Vestry Hall for Cavendish Lecture, 1895		1 16 6
„ Williams, for Incandescent Gas Burners		1 13 4
„ Donation to West London Hospital		5 5 0
„ Subscription to "Medical Press and Circular"		1 1 0
„ Cheque Book		0 2 1
„ Receipt Book		0 0 6
		120 12 4
„ Balance at Bank, May 31, 1896 .. .. £44 5 10		
„ Less Unpresented Cheque 2 0 0		
	42 5 10	
„ Cash in hands of Treasurer	2 15 4	
		45 1 2
„ Arrears of Subscriptions		44 5 0
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(Signed) CHARLES ANDREWS.
F. R. MALLARD.

June 11, 1896.

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* The Secretaries request that they may be informed immediately of any inaccuracy in the list or of any change of address.

The abbreviations P., T., V.P., S., C., E.P., A., L., E.J., *and* E.S.J., *are attached to the names of those who have respectively held the offices of President, Treasurer, Vice-President, Secretary, Member of Council, Editor of Proceedings, Auditor, Librarian, Editor of the Journal or Editorial Secretary of the Journal. The date before each name signifies the date of election, and the letters* O.M. *signifies original member.*

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O.M.	Alderton, T. Gunton (P., T., V.P., S., C.)	...	82, The Grove, Hammersmith, W.
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1884	Appleton, T. A.	...	46, Britannia Road, Fulham, S.W.
1895	Ashe, W. P., M.D.	...	23, Cadogan Gardens, S.W.
1885	Atkinson, T. R.	...	1, West Cromwell Road, S.W.
1893	Austen, Harold, M.D.	...	25, Mattock Lane, Ealing, W.
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1896	Bailey, H. F.	...	The Hollies, Lee Terrace, Blackheath, S.E.
1896	Baker, E. C., M.B.	...	5, Gledhow Gardens, S. Kensington, S.W.
1891	Baker, W. H.	...	40, Norfolk Terrace, Bayswater, W.
O.M.	Baldock, A., M.B.	...	180, Earl's Court Road, S.W.
1885	Ball, James B., M.D. (V.P., C.A.)		12, Upper Wimpole Street, W.
1883	Ballance, C. A., M.S.	...	106, Harley Street, W.
1887	Banning, R. J., M.D. (A., C., P.)	...	Greytree, South Nutfield, Surrey.
1888	Barbour, Jas. M., M.B.	...	18, Nevern Road, S.W.
O.M.	Barnes, E. C. (V.P., C., A.)	...	194, Hammersmith Road, W.
1892	Barrett, A. K.	...	County Asylum, Bicton Heath, near Shrewsbury.
1887	Bartlett, Edward	...	38, Connaught Square, W.
O.M.	Barton, J. K.	...	2, Courtfield Road, Gloucester Road, S.W.
1889	Bateman, A. G., M.B.	...	49, Devonshire Street, W.
1896	Batten, F. E., M.D.	...	124, Harley Street, W.
1888	Batten, Rayner D., M.D. (C.)		Campden Lodge, Campden Hill Road, W.
1896	Battiss, W. J.	...	2, The Grove, Hammersmith, W.
1883	Battle, W. H.	...	2, Mansfield Street, Portland Place, W.
1893	Beauchamp, Sydney, M.B.	...	146, Cromwell Road, S.W.
1891	Belben, F., M.B.	...	Hoo Menry, Branksome Chine, Bournemouth.
O.M.	Benham, R. F.	...	9, Castletown Road, West Kensington, W.
O.M.	Bennett, C. H., M.D. (A.)	...	College House, Hammersmith, W.
1894	Benson, G. Vere	...	13, Queen Anne's Grove, Bedford Park, W.
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1896	Black, J. F., M.B.	...	95, Goldhawk Road, W.
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1889	Bourke, Wm. H., M.D.	...	8, Moreton Gardens, S.W.
1893	Bourns, N. Whitelaw, M.D.	...	78, Redcliffe Gardens, South Kensington, S.W.
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1893	Brinton, R. D., M.D.	...	8, Queen's Gate Terrace, S.W.
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1895	Buckland, F. O., M.D.	...	10, Egerton Place, S.W.
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O.M.	Burt, Alfred ...	97, Uxbridge Road, W.
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1888	Clemow, Arthur H. W., M.D. (C., S., V.P., L.)	101, Earl's Court Road.
O.M.	Clippingdale, S. D., M.D. (V.P., C., E.P.) ...	36, Holland Park Avenue, W.
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1896	Collier, N. C. ...	10, West Kensington Gardens, W.
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O.M.	Cooper, Alfred (T.) ...	9, Henrietta Street, Cavendish Square, W.
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1886	Des Vœux, H., M.D. (C.) ...	4, Ashley Gardens, Victoria Street, S.W.
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1887	Dickinson, W. G. ...	Thanet Lodge, Southfields, Wandsworth, S.W.
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1896	Dickson, W. P. ...	Combe Park, Weston, Bath.
1886	Diplock, L. B. ...	Ashwood, Bolton Gardens, High Rd., Chiswick.
1896	Dobson, L., M.D. ...	59, Addison Gardens, W.
1892	Dockrell, Morgan, M.D. ...	9, Cavendish Square, W.
1887	Dodd, H. W. ...	136, Harley Street, W.
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O.M.	Doran, Alban (C.) ...	9, Granville Place, W.
O.M.	Drewitt, F. G. D., M.D. ...	2, Manchester Square, W.
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1884	Duncan, William, M.D. ...	6, Harley Street, W.
1884	Dunn, H. Percy (V.P., S., C., E.P., E.J.) ...	54, Wimpole Street, W.
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1896	Eccles, G. Tolcher, M.B. ...	63, Sackville Road, Hove.
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1890	Eccles, Wm. McAdam, M.S. (C.)	124, Harley Street, W.
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O.M.	Edwards, F. Swinford (C., V.P., P.) ...	55, Harley Street, W.
1893	Elliott, Andrew, M.D. ...	5, Portman Street, Portman Square, W.
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O.M.	Friend, H. E. ...	1, St. Stephen's Crescent, Westbourne Park, W
1887	Gardner, W. T., M.B. (C.) ..	11, Branksome Terrace, Bournemouth West.
1889	Garrod, Archibald E., M.D....	9, Chandos Street, Cavendish Square, W.
1884	Gillingham, A. ...	485, High Road, Chiswick, W.
1886	Gloster, J., M.B. ...	15, Upper Phillimore Place, Kensington, W.
1890	Goldney, A. G. N. ...	18, Brook Green, W.
1886	Goldney, A. C. N. ...	18, Brook Green, Hammersmith, W.
1888	Goodsall, D. H. ...	17, Devonshire Place, W.
1891	Goodwin, C. F. ...	93, Richmond Road, Kingston-on-Thames.
1893	Gossage, A. M., M.B. ...	54, Upper Berkeley Street, W.
1894	Gowan, B. C. ...	Ravendene, Great Stanmore, Middlesex.
1895	Gray, A. C. E., M.B. ...	1, Elm Park Gardens, S.W.
1894	Graydon, A. ...	124, Cornwall Road, Notting Hill, W.
1894	Griffin, N. W. W., M.B. ...	32, New Cavendish Street, W.
1888	Griffiths, H. J., M.D. ...	5, Kensington Square, W.
1889	Handfield-Jones, M., M.D. ...	35, Cavendish Square, W.
1895	Handfield-Jones, R. H. ...	103, Earl's Court Road.
1885	Harper, Jas., M.D. ...	25, Rosary Gardens, South Kensington, S.W.
1896	Harper, Gerald, M.B. ...	40, Curzon Street, W.
1887	Harris, Carpenter ...	122, Harley Street, W.
1890	Harris, P. Traer ...	122, Harley Street, W.
O.M.	Harrison, H. F. E. ...	33, Shepherd's Bush Green, W.
1890	Harrison, Reginald ...	6, Lower Berkeley Street, W.
1896	Harrison, C. J., M.B. ...	16, Rosetti Mansions, Cheyne Walk, S.W.
1896	Hartley, R., M.D. ...	112, Westbourne Grove, W.
1887	Hartzhorne, B. F. ...	Blenheim Lodge, High Road, Chiswick, W.
1896	Harvey, J. S., M.D. ...	1, Astwood Road, Cromwell Road, S.W.
1888	Heddy, W. J. ...	46, Redcliffe Gardens, S.W.
1890	Hill, W., M.D. ...	28, Weymouth Street, W.
1888	Hill-Wilson, Arthur E. ...	217, Goldhawk Road, W.
O.M.	Hogan, J. C., M.D. ...	3, Redcliffe Gardens, South Kensington, S.W.
O.M.	Hood, D. W.C., M.D. (P., V.P.)	43, Green Street, W.
1890	Houghton, P. A. (A.) ...	Lindfield, Sussex.
1896	Horne, W. J., M.B. ...	17, Bartlett's Buildings, W.C.
1896	Howard, Brig.-Surg. Lieut.-Col. F., M.D. ...	1, Alma Terrace, Kensington, W.
O.M.	Hubbard, H. W. ...	19, Elgin Crescent, Notting Hill, W.
1894	Hughes, E. A. ...	10, Old Cavendish Street, W.
1885	Humphreys, F. W. ...	24, Sinclair Gardens, West Kensington Park, W.
1893	Hunter, William, M.D. (C.)...	54, Harley Street, W.
1887	Hurlbutt, S. ...	15, Old Burlington Street, W.

1896	Hyde, S., M.D. ...	Lismore House, Buxton.
1891	Jackson, Charles J. ...	3, Fulham Park Villas, Fulham Road, S.W.
1896	Jackson, Surg.-Capt., M.D. ...	Wellington Barracks, S.W.
1895	James, J. B. ...	93, Bridge Road, Hammersmith.
O.M.	James, W. Culver, M.D. ...	11, Marloes Road, Kensington, W.
1893	Jessett, F. Bowreman ...	1, Buckingham Palace Mansions, S.W.
1896	Jessop, W. H., M.B. ...	73, Harley Street, W.
1891	John, William ...	19, Avonmore, Road, W.
1894	Johnston, George F., M.B. ...	6, Manchester Square, W.
1892	Johnston, J. W., M.D. ...	The Leys, Fording Bridge, Hants.
1887	Jones, Macnaughton, M.D. ...	141, Harley Street, W.
1886	Juler, H. E. ...	23, Cavendish Square, W.
1891	Keen, William, M.D. ...	Argyle House, King's Road, Chelsea.
O.M.	Keetley, C. B. ... (P., V.P., S., C., E.P., L.)	56, Grosvenor Street, W.
1891	Kenwood, H. R., M.B. ...	9, Alexander Villas, Finsbury Park, N.
1884	Kiallmark, H. W. ...	5, Pembridge Gardens, W.
1896	Kloster, O., M.D. ...	55, St. George's Square, N.W.
1893	Krohn, Ronald G. S., M.D....	81, Queen's Crescent, Haverstock Hill, N.W.
1887	Lake, Richard (C., S., V.P., E.P.)	19, Harley Street, W.
O.M.	Lamb, W. H., M.B. (C.) ...	23, Palace Court, W.
1894	Lancaster, H. F., M.D. ...	154, Westbourne Terrace, W.
1888	Lang, William ...	22, Cavendish Square, W.
1884	Larder, H. ...	Whitechapel Infirmary, E.
O.M.	Lawrance, F. (P., V.P., C., T.)	1, St. Alban's Terrace, Hammersmith, W.
1884	Leeson, Oliver J. ...	Collingham House, Cromwell Road, S.W.
1893	Lewis, Ernest Wool ...	12, King Street, Hammersmith, W.
1896	Light, E. M., M.B. ...	2, Wilton Place, Belgrave Square, S.W.
O.M.	Lloyd, R. W. (V.P., S., C., E.P.)	27, Russell Road, Kensington, W.
1892	Lloyd, F. G. ...	27, Russell Road, Kensington, W.
1896	Lockyer, H. J. C. ...	Kensington Dispensary, W.
1892	Loftus, A. S. ...	Lindisfarne, Christchurch Road, Boscombe.
1883	Longhurst, A. K. ...	Hillingdon, Mount Park Road, Ealing, W.
1896	Low, F. H., M.B. ...	12, Sinclair Gardens, W. Kensington.
1895	Low, Harold, M.B. ...	10, Evelyn Gardens, S. Kensington.
1882	Low, R. Marsden, M.B. (C.)	70, Philbeach Gardens, S.W.
1894	Lubbock, E. A. ...	632, Fulham Road, S.W.
O.M.	Lunn, J. R. (C.) ...	St. Marylebone Infirmary, Notting Hill, W.
1888	Lush, Percy J. F., M.B. (A.)...	4, Maresfield Gardens, Hampstead, N.W.
1886	Lynch, J. Roche ...	74, Holland Park Avenue, W.
1890	Lynes, John ...	6, Argyll Road, Kensington, W.
1896	Lyth, E. R., M.B. ...	117, Goldhawk Road, W.
O.M.	Mackinlay, J. G. ...	15, Stratford Place, W.
1896	Macfarlane, Aymler, A. ...	1, Montpelier Terrace, Brighton.
1890	MacLaren, J. A., M.B. ...	2, Fairholme Road, W. Kensington.
1893	Maidlow, W. H., M.D. ...	The Hospital, Taunton.
1896	Maggs, O. H. A. ...	165, Buckingham Palace Road, S.W.
1896	Mahon, R. H. D. ...	67, Earl's Court Road, S.W.
1896	Malcolm, J. H. D., M.B. ...	13, Portman Street, W.
O.M.	Mallam, W. P. (C.) ...	169, Uxbridge Road, W.
1891	Mallard, F. R. (A.) ...	79, Bridge Road, Hammersmith, W.
1890	Mansbridge, J. (C.) ...	112, Harley Street, W.
1890	Margrave, M. L. ...	3, Devonia, Newton Abbott, Devon.
1885	Mark, Leonard ... (V.P., S., E.P., C., A.)	61, Cambridge Street, Hyde Park, W.
1896	Marks, W. J. H. ...	7, Hertford Street, Mayfair, W.

1883	Marsh, Howard ...	30, Bruton Street, W.
1894	Martin, J. W., M.D. ...	Burnfoot, Clondin, Dumfries, N.B.
1884	Mason, J. W. ...	1, Osnaburgh Terrace, Regent's Park, W.
1884	Mason, J. W. B., M.D. ...	1, Osnaburgh Terrace, Regent's Park, W.
1885	Masters, J. A., M.D. (C., V.P.)	57, Lexham Gardens, Kensington, S.W.
1893	May, C. Gould, M.D. ...	26, Walton Street, Pont Street, S.W.
1894	McCann, Frederick J., M.B.(S.)	5, Curzon Street, W.
1887	Mennell, Zebulon ...	1, Royal Crescent, Notting Hill, W.
1894	Menzies, Henry, M.B. ...	St. George's Hospital, S.W.
1885	Menzies, J. Herbert ... (V.P., S., C., E.P.)	47, Earl's Court Square, S.W.
1895	Miller, F. R., M.D. ...	31, Shepherd's Bush Road, W.
O.M.	Miller, J. D., M.B. ...	152, Holland Park Avenue, W.
1893	Mills, H. H. ...	21, St. Mary Abbotts Terrace, Kensington, W.
1888	Moore, Stephen H. ...	97, Sydney Street, Chelsea, S.W.
1893	Morris, E. H. Grant, M.B. ...	8, Gloucester Terrace, Onslow Gardens, S.W.
1896	Mortimer, J. D., M.B. ...	22, Cheyne Gardens, Chelsea, S.W.
1896	Moullin, J. A. Maunsell, M.D...	69, Wimpole Street, W.
1896	Muggleton, F. C., M.D. ...	Mount View, Anerley Hill, Norwood.
1883	Muir, J. C. P. ...	94, Ladbroke Grove, Notting Hill, W.
1896	Murray, C. Stormont ...	85, Gloucester Place, W.
1891	Murrell, G. F. ...	Eden Cottage, Craven Road, Reading.
1896	Musson, William C. ...	35, Mall Road, Hammersmith.
1896	Myddelton-Gavey, E. H. ...	124, Harley Street, W.
1894	Naumann, J. C. F., M.D. ...	125, Gower Street, W.C.
1887	Noott, W. M. ...	8, Kensington Park Road, W.
1896	Norman, F., M.D. ...	5, Holland Road, Brixton, S.W.
1887	Orr, A. Aylmer, M.B. ...	204, Earl's Court Road, S.W.
1895	Orr, J. J., M.D. ...	493, King's Road, Chelsea, S.W.
1882	Orton, G. H., M.D. ...	1a, Campden Hill Road, Kensington, W.
1894	Otway, A. Caroll ...	Exeter House, Barnes.
1887	Owen, Edmund ...	64, Great Cumberland Place.
1882	Owles, J. A., M.D. (V.P., C.)	Hill View, Woking, Surrey.
1888	Paget, Stephen (C.) ..	57, Wimpole Street, W.
O.M.	Palmer, F. S., M.D. ...	Compton Lodge, East Sheen, S.W.
1891	Palmer, Foster J. ...	8, Royal Avenue, Chelsea.
1894	Parker, Charles A. ...	Colne Valley, Rickmansworth.
1890	Parker, W. Turnour ...	68, Lillie Road, Fulham.
1894	Parsloe, H. H. ...	Davona House, Ivydale Road, Nunhead, S.E.
1885	Parnell, L. ...	3, Coningham Road, Shepherd's Bush, W.
1887	Paramore, R., M.D. ...	2, Gordon Square, W.C.
1892	Part, J. Shepley ...	20, Ashchurch Park Villas, Shepherd's Bush, W.
1882	Patmore, Tennyson ...	H.M. Prison, Wormwood Scrubbs, W.
1896	Paton, E. P., M.S. ...	84, Park Street, W.
1889	Pattison, E. S. ...	Granville House, Fulham Road, W.
1886	Pearson, D. Ritchie, M.D. ...	23, Upper Phillimore Place, Kensington, W.
1894	Pegler, Louis H., M.D. ...	25, Old Burlington Street, W.
1896	Phillips, T. ...	124, Harley Street, W.
O.M.	Pickett, J., M.D. (V.P., C.) ...	26, Colville Square, W.
1894	Pillow, H., M.D. ...	1, Pembridge Gardens, W.
1883	Pocock, F. E., M.D. ...	The Limes, St. Mark's Road, Notting Hill, W.
1896	Pollock, J. D., M.D. ...	98, Earl's Court Road, S.W.
O.M.	Pope, H. Campbell, M.D. ... (V.P., S., E.P., P., C.)	280, Goldhawk Road, Shepherd's Bush, W.
O.M.	Potter, H. Percy, M.D. (C., V.P.)	Kensington Infirmary, W.
1894	Pratt, W. Sutton, M.D. ...	Penrhos, Rugby.
1896	Pritchard, O., M.D. ...	37, Southwick Street, Hyde Park, W.
1896	Propert, W. A. ...	112, Gloucester Place, W.

1883	Reece, R. J., M.D.	31, Holland Villas Road, W.
1883	Reid, John, M.D.	31, Bridge Avenue, Hammersmith, W.
1891	Revill, G. L. H.	Heighington, Lincoln.
O.M.	Richardson, Gilbert, M.D.	Hawthorn House, Putney, S.W.
1887	Roberts, John D.	103, Uxbridge Road, Ealing, W.
1890	Robinson, G. H. D., M.B.	84, Park Street, Grosvenor Square, W.
O.M.	Rogers, Hildyard	43, Uxbridge Road, W.
1896	Rooke, E. M.	88, Cromwell Road, S.W.
1893	Rotheroe, W. B.	129, Ladbroke Grove, W.
1883	Roughton, E. W., M.D.	33, Westbourne Terrace, W.
1893	Routh, Amand J. M., M.D.	14a, Manchester Square, W.
1893	Ryall, E. C.	10, Bentinck Street, W.
1888	Savage, J. (C.)	11, Avonmore Road, Kensington, W.
1893	Savery, Frank	4, Mount Park Road, Ealing, W.
O.M.	Savill, T. D., M.D. (C.)	60, Upper Berkeley Street, W.
O.M.	Schacht, F. F., M.D. (V.P., S., L., C.)	168, Earl's Court Road, S.W.
1895	Scharlieb, H. J.	149, Harley Street, W.
1895	Scoffield, S. R.	Queen's Club Gardens, S.W.
1889	Scott, A., M.D.	Bradford Street, Bocking, Essex.
1894	Scott, A. L.	Westbourne Villa, Uxbridge Road, Ealing, W.
1886	Shadwell, H. W.	Fernleigh, Arnison Road, East Molesey.
1884	Shaw, Arthur H. P.	
O.M.	Sheldon, T., M.D.	25, Powis Square, Notting Hill, W.
1896	Shuter, G. P., M.B.	Oaklands, Chiswick Lane, Chiswick.
1895	Shuttleworth, G. E., M.D.	Ancaster House, Richmond, Surrey.
1892	Slevin, P., M.D.	The Green, West Drayton.
1883	Smith, H. A., M.D.	Burnham Lodge, Grange Road, Ealing, W.
1886	Smith, Stanley, M.D.	10, Kensington Gardens Square, W.
1886	Smith, Travers R., M.D.	13, Kilburn Park Road, N.W.
1896	Snape, E., M.D.	41, Welbeck Street, W.
1890	Spencer, Herbert, M.D.	10, Mansfield Street, W.
1896	Spencer, M. H., M.D.	4, Maxilla Gardens, N. Kensington, W.
1884	Spicer, R. Scanes, M.D. (C.)	28, Welbeck Street, W.
1896	Squire, J. E., M.D.	122, Harley Street, W.
1886	Starkie, R. F., M.D.	47, Sussex Street, Warwick Square, S.W.
1889	Starling, John	Hornton House, Hornton Street, Kensington, W.
1891	Startin, James	15, Harley Street, Cavendish Square, W.
1896	Staveley, W. H. C.	13, South Eaton Place, S.W.
1893	Steele, Russell, M.D.	The Red House, Hemel Hempstead, Herts.
1888	Steer, William (C.)	Union Infirmary, Fulham Palace Road, W.
1890	Stocker, E. G.	Woodfield House, Floore, Weedon.
1896	Stoker, George	14, Hertford Street, Mayfair, W.
1887	Sunderland, Sept., M.D.	35, Bruton Street, W.
1896	Sutherland, G., M.D.	9, Old Cavendish Street, W.
1888	Sutherland, Henry, M.D. (C., V.P.)	6, Richmond Terrace, Whitehall, S.W.
1896	Swinhoe, G. R.	The Close, New Swindon, Wilts.
1887	Tait, E. S., M.D.	48, Highbury Park, N.
1896	Tunnicliffe, F. W., M.D.	48, Upper Berkeley Street, W.
1892	Taylor, Alf. Ernest, M.B.	Bradbourne House, Acton, W.
1883	Taylor, H. H.	10, Brunswick Place, Brighton.
1892	Taylor, Michael H.	16, Church Road, Richmond.
1886	Taylor, Seymour, M.D. (C.)	16, Seymour Street, Portman Square, W.
1896	Thompson, G. W.	23, Chapter Road, Willesden Green, N.W.
1893	Thompson, Maitland	Brooklands, Hemel Hempstead, Herts.
1889	Thomson, J. C., M.D.	111, Sinclair Road, West Kensington Park, W.
1889	Thornton, B.	Berkeley Lodge, Margate.

O.M.	Thudichum, J. W. L., M.D... (P., V.P., C.)	11, Pembroke Gardens, Kensington, W.
1887	Times, Lawrence K. ...	23, Manchester Street, W.
O.M.	Travers, W., M.D. ... (P., V.P., C.)	2, Phillimore Gardens, Kensington, W.
1894	Trower, Arthur ...	12, Moreton Gardens, S.W.
1896	Tubby, A. H., M.S. ...	25, Weymouth Street, W.
O.M.	Tuke, C. M. (C.) ...	Chiswick House, Chiswick, W.
1892	Tuke, T. Seymour, M.B. ...	Chiswick House, Chiswick, W.
1893	Turnbull, G. L., M.D. ...	96, Ladbroke Grove, W.
1889	Turner, W. A., M.B. ...	13, Queen Anne Street, W.
1896	Twyman, G. E. ...	31, Gledhow Gardens, South Kensington.
1896	Tyson, W. J., M.D. ...	10, Langhorne Gardens, Folkestone.
1896	Vallencey, A. d'Estampes ...	Willoughby House, Ravenscourt Park, W.
1896	Vivian, P. ...	12, West Kensington Mansions, W.
1891	Vicars, G. Fred. ...	22, Ovington Gardens, S.W.
1885	Wainwright, B., M.B. ...	47, Weymouth Street, W.
1895	Wakefield, R. Clark, M.D. ...	206, Ladbroke Grove, W.
O.M.	Walker, Horace (C.) ...	143, Hammersmith Road, W.
1889	Wall, Reginald B. ...	78, Bishop's Road, W.
1896	Wallace, F. G., M.B. ...	50, Earl's Court Road, S.W.
1886	Walsh, David, M.B. ...	5, Pump Court, Temple, E.C.
1896	Walters, F. R., M.D. ...	60, Welbeck Street, W.
1886	Warner, F. A. ...	10, Brechin Place, South Kensington, S.W.
1892	Watts, Guy A. T., M.B. ...	36, Russell Road, Kensington, W.
1890	Waugh, H. D., M.B. ...	6, Sumner Place, Onslow Square, S.W.
1888	Webb, H., M.D. ...	Wentworth House, Parson's Green, S.W.
1895	Weber, F. Parkes, M.D. ...	19, Harley Street, W.
1890	Weldon, George, M.B. ...	84, Brompton Road, S.W.
1885	Wells, A. G. (C.) ...	Keith House, Beaumont Terrace, W. Kensington.
O.M.	Wells, Chas., M.D. ... (V.P., P., T., C.)	Fairfield, Cookham Dean.
1893	Wharry, H. G. Oliphant ...	84, Park Street, Grosvenor Square, W.
1884	Wheatley, A. W., M.B. (A.)...	3, Kensington Court, W.
1891	White, C. Percival, M.B. ...	144, Sloane Street, S.W.
1885	Whitmore, W. Tickle ...	7, Arlington Street, S.W.
1896	Whitfield, A., M.D. ...	12, Upper Berkeley Street, W.
1887	Wilcocks, Frederick, M.D. ...	14, Mandeville Place, W.
1890	Wilkin, G. C. ...	39, Weymouth Street, W.
O.M.	Wilkins, H. G. ...	Bolingbroke, Uxbridge Road, Ealing Common.
1888	Williams, Alex. L. ...	1, Brunswick Terrace, Kensington, W.
O.M.	Williams, H., M.D. ...	Guilsborough, Northampton.
1890	Williams, H. Lloyd ...	2, Upper Wimpole Street, W.
1889	Williams, R., M.D. ...	95, St. Mark's Road, Notting Hill, W.
1891	Wilson, R. W., M.D. ...	Aden House, Ennerdale Road, Kew Gardens.
1891	Wilson, William, M.B. ...	184, Goldhawk Road, W.
1889	Woakes, Edward, M.D. ...	78, Harley Street, W.
1889	Wood, N. T. (S.) ...	42, Elvaston Place, S.W.
1884	Woodforde, A. P. ...	160, Goldhawk Road, Shepherd's Bush, W.
1889	Wornum, G. P. ...	6, College Terrace, Belsize Park, N.W.
1894	Yearsley, P. Macleod ...	10, Bentinck Street, W.

Foreign and Corresponding Members.

1884	Atkinson, J. M., M.D.	...	Civil Hospital, Hong Kong.
O.M.	Beckingsale, D. L., M.D.	...	Vernon, British Columbia.
1896	Bidwell, Lawrence, R.N.	...	H.M.S. *Collingwood*, Mediterranean Station.
1889	Brown, Surg.-Capt. F. J.	...	Army Medical Staff.
1896	Dardel, Jéan, M.D.	...	Aix les Bains, Savoie, France.
1885	Davis, Surg. E.	...	Army Medical Staff.
1885	Edwards, Surg. A. R.	...	Bengal Army.
1884	Harvey, Surg.-Col. R., M.D.		Bengal Army.
O.M.	Hendley, Surg.-Capt. H.	...	Conuim, Dharmgala, Punjaub.
1883	Hendley, Surg.-Col. T. H., C.I.E.		Bengal Army.
O.M.	Huggard, W. R., M.D.	...	Davos Platz, Switzerland.
1892	Humphry, A. D.	...	Kurseung, Bengal.
1896	MacDougall, J. A., M.D.	...	Villa Letterewe, Cannes.
1885	McCulloch, Surg. T. C.	...	Army Medical Department.
1889	Napier, A. Leith, M.D.	...	Adelaide Hospital.
1891	Newman, E. A.	...	I.M.S., c/o Messrs. Watson, Apollo Street, Bombay.
1887	Odling, T. F., C.M.G.	...	Shiraz, Persia, c/o Messrs. Hickie, Bowman & Co., 14, Waterloo Place, S.W.
1883	Walsh, Surg. J. H. T.	...	Bengal Army.
1889	Webster, G. A., M.D.	...	South Yarra, Melbourne.

NOTICE.—All communications relating to the Literary part of this Journal, Books for Review and Exchanges should be addressed to the Editor, Mr. PERCY DUNN, 54, Wimpole Street, Cavendish Square, W. Applications for Copies of the JOURNAL, communications respecting Advertisements, and Instruments, Pharmaceutical Preparations, &c., intended for notice, should in all cases be forwarded to the Editorial Secretary, Mr. L. A. BIDWELL, 59, Wimpole Street, Cavendish Square, W.

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THE

West London Medical Journal.

Published Quarterly under the auspices of the West London Medico-Chirurgical Society.

THE WEST LONDON MEDICAL JOURNAL.

It may be of interest briefly to explain the circumstances under which the West London Medical Journal, the organ of the West London Medico-Chirurgical Society, has come into existence. The idea was originally suggested some months ago by our President, Dr. Symons Eccles, as an improvement upon the somewhat unsatisfactory method of publication by which the Society's proceedings have hitherto reached the members. The suggestion that we should issue a quarterly journal of the Society was brought by Dr. Symons Eccles before the Council in October last, and a Sub-Committee was thereupon appointed, consisting of the President, the two Secretaries, the Treasurer, Mr. Keetley, Mr. Bruce Clarke and Mr. Percy Dunn, to consider and discuss and draft a report upon the feasibility, or otherwise, of the enterprise. After several meetings, and the transaction of much business, the Sub-Committee agreed upon their report, in which they recommended the issue of a quarterly journal of the Society. This report was laid before the Council in November last, and was adopted, and the Council at once re-appointed the

Sub-Committee and empowered them to make all necessary arrangements for the issue of the journal. This, in brief, will explain the birth of this new journalistic venture, and the event is worthy of note, not only so far as our Society is especially concerned, but also in relation to all the other medical Societies in London.

It was formerly the belief that no Society could afford to publish its proceedings where the subscriptions of the members did not exceed a guinea per annum. We believe, however, that the first Society to prove the fallacy, as we may conclude, of this belief, was the Obstetrical. This was, of course, many years ago, and is only mentioned here to show the changes which time has effected in this regard. But the new enterprise of the West London Medico-Chirurgical Society in issuing a quarterly journal, stands out in bold relief when it is remembered that nothing of the kind has ever been attempted, or presumably suggested, in London before. Despite, however, this fact, and the knowledge that our membership subscription is limited to five shillings, we have yet the assurance of our admirable Treasurer that the undertaking from a financial point of view, in the interests of the Society, is perfectly justifiable. With these few remarks we will now proceed to point out the scheme under which the JOURNAL will be conducted.

In the first place, so far as space will permit, the papers read before the Society will appear *in extenso* in the front pages of the JOURNAL. Then will follow a full report of the meetings of the Society for the past quarter; this will include abstracts of some of the papers, and the discussions. The speeches of the members will in all cases be published in the first person, and it is particularly requested, while writing out the reports of their remarks at the meetings upon the cards provided for the purpose, that the members will kindly remember to use the first person. After the Society's proceedings will come the "Mirror of Practice." This department is intended for the publication of interesting clinical

cases, occurring both in hospital and private practice, and the editor will be glad of the co-operation of all the members of the Society in making the "Mirror" a useful, instructive, and valuable feature of the JOURNAL. Then will follow the reviews of books. Having regard to the fact that the Society has had for some years in hand the formation of a library, this department will be by no means the least important. All the books which are received for review will be distributed by the editor for that purpose, and after the review has appeared the books will be forwarded to the library. In each number of the JOURNAL an acknowledgment will appear of the books so received. Some of the remaining pages of the JOURNAL will be taken up with reports upon new preparations, drugs and appliances, which may seem to be worthy of notice. This important department will be under the able management of the editorial Secretary. Space will also be devoted to library notices, to brief references to the post-graduate courses in London, and short paragraphs will also appear from time to time dealing with matters of local interest, that is to say, topics concerning the members, the district, and the Society generally.

It only remains for us to add that we feel sure that the *esprit de corps* which undeniably exists among the members of the Society will take practical form in the interest displayed by every member to promote the success of the Society. By so doing the JOURNAL will be certain to acquire an established position—an achievement which we must all heartily wish will soon be consummated. As the JOURNAL succeeds so will the Society prosper—in short, it may be said metaphorically that a thing possessed of life has now been cast into the still waters of the Society's proceedings, the effect of which it may be trusted will be to infuse with its own vitality the subsequent course and progress of the West London Medico-Chirurgical Society, in which so many of us have taken from the first so deep an interest.

So far as the editorial department is concerned no effort

will be spared to make the JOURNAL a success, and in saying this the editor trusts that he may rely on the hearty co-operation of all those who are in the position to assist him.

Original Communications.

THE PRESIDENTIAL ADDRESS ON THE ADVANTAGES OF OXIDATION.

BY A. SYMONS ECCLES, M.B.

GENTLEMEN,—Allow me to thank you most sincerely for the honour you have conferred upon me in selecting me to fill the high office which it will be my endeavour no less than my privilege and pleasure so to occupy, that, following the example of my predecessors, your President may be found ever ready to uphold the best traditions, to maintain the high position of our Society, and last, but not least, to be always the servant of you all. In so far as the purely administrative work is concerned I have no doubt that your selection of my unworthy self will prove happy, as it would be almost impossible for anyone to fail therein who is so fortunate as I find myself in being associated with those who by your suffrages fill the more onerous and not less important executive offices on our Council; but there is one duty entailed upon your President which has caused me so much anxiety and misgiving, that if it were not for the affection I cherish for the West London Medico-Chirurgical Society, and the pride with which I occupy this chair to-night, I would fain have declined the honour, carrying with it the duty of providing for your consideration some subject of general interest on which I could hope to make any remarks worthy of attention. However, since your choice has fallen on one from whom you could not expect to hear an interesting retrospect of bygone medical days or a brilliant record of past surgical achieve-

ments, I claim your forbearance and patience while for a brief space an attempt is made to suggest rather than to construct materials which may prove to be not altogether unsatisfactory food for thought.

There are certain phenomena of life so familiar by reason of their constant occurrence within, around, and about us that I would venture to suggest the possibility of forgetting them if they were not so frequently brought before us in all their significance by some disturbance in regularity which we recognise as pathological; and at the risk of being tedious I would ask you to permit me to discuss very superficially, and of necessity inadequately, so well-established and unassailable a physiological doctrine as is embodied in the title of this address, "The Advantages of Oxidation." My excuse for referring to a subject, which you may regard as too obviously belonging to the very A B C of physiological truth to require any suggestion on my part, is that for the last two or three years I have been endeavouring in a very small way to learn for myself some lessons bearing on the oxidation processes in the human body. If, then, you are needlessly reminded of elementary physiological facts at the outset of this address, you will perhaps forgive me for alluding to them in order to clear the way for those suggestions which I shall offer as the result of personal investigations—lessons in a measure self-taught, and maybe replete with error, inasmuch as they are only the crude and clumsy attempts of one who has not at his disposal the knowledge and skill of a scientific physiological chemist.

The first fact—or, so to speak, letter—of the physiological alphabet which it appears to me we should bear in mind while discussing the advantages of oxidation in regard to the human body in health and disease, is this, that whereas plants by a reduction process build up simple bodies of small molecular value and stable composition into complex combinations of high molecular value and unstable constitution, animals, on the other hand (the human body, for instance), by oxidation break up the complex combinations of atoms formed by plants into bodies of much simpler constitution and of greater stability, and in this combustion process heat, work, and other forms of energy are evolved. The second letter of our physiological A B C to which I would draw your

attention is that the end products of these oxidation processes are carbon dioxide and water, the result of non-azotised substances, and urea, which may again be decomposed into carbon dioxide and ammonia, the result of azotised matters or proteids. May I venture to suggest that most of the work done in the human body is performed, so far as we are yet aware, by the combustion of the carbohydrates, while the wear and tear of the organism itself are represented by the nitrogenous waste matters, the end product of complete combustion being urea? It may be that this suggestion will not hold good, but that, to continue my simile, I am attempting to construct from our physiological alphabet a word which is mis-spelt and does not exist as a physiological truth; but on reference to Professor Michael Foster's work I find that my notion, at any rate in regard to muscular work, is not so far-fetched as it might appear to be, for he compares the special contractile carbon-hydrogen substance of a muscular contraction to the charge of a gun, the products of its combustion being carbonic and sarcolactic acids, while the real living material of the fibre may be compared to the gun itself, which, however, is constantly undergoing change in excess, according to Foster, of mere wear and tear.

Since a large proportion of the oxidation processes carried on in the human body occurs in the muscular system, it may not be unprofitable to note briefly the present state of our knowledge in regard to the series of chemical events taking place in an active muscle. We find that the products of incomplete oxidation of both nitrogenous and non-nitrogenous matters are always in excess, while, except in cases of severe and almost unique over-fatigue, the formation of urea—*i.e.*, of completely oxidised proteid matter—is not increased. It is to the accumulation of partially oxidised waste products within the muscle that we must attribute the fatigue, and that impotence to continue work after a certain time which supervenes on muscular exercise. It appears that the quantity of nitrogenous material oxidised is the same in an active and passive muscle, but during contraction such a quantity of oxygen is used up in the combustion of the hydrocarbons that insufficient oxygen remains for the complete oxidation of the nitrogenous matter; so, instead of urea, we have other substances resulting from muscle waste—default of oxygen

leading to incomplete combustion and the consequent formation of uric acid and creatinine, substances which may be regarded as the insufficiently oxidised precursors of urea. But this incomplete oxidation is also shared by the hydrocarbons, for, although we find seven times the amount of carbon dioxide formed in an active muscle over and above the amount produced in the passive organ, there are certain products of incomplete combustion derived from hydrocarbons rendering the reaction of the fatigued muscle acid instead of alkaline. The most constant of these non-nitrogenous fatigue products is sarcolactic acid, and it is probably to the accumulation in the system of both this and the incompletely oxidised nitrogenous products of muscular activity that we may attribute the aching weariness of over-fatigue experienced by persons unaccustomed to exercise. It must be remembered, however, that, although evidences of excessive acidity and of leucomaines may be found after over-exercise in the urine of persons habitually sedentary, no such phenomena present themselves in the urine of individuals who are in training. In other words, it is possible to improve the processes of intra-organic oxidation and to render them more complete by means of a course of regular and systematised exercise, which will induce increased amplitude of respirations, augment the volume of blood passing through the muscular system, and favour the combustion of fatty tissue.

But oxidation does not only take place in the muscles, for we know that it occurs in the blood itself, in the glandular structures, and, as Ehrlich has shown, in the cells of all the tissues, especially in those of the brain, liver and heart, where processes of oxidation and reduction are constantly going on.[1] I cannot hope to add much to the knowledge already placed at our disposal by Gautier,[2] who first gave the name leucomaine to alkaloids appearing during life in the tissues of animals. His researches, with those of Brieger, Bouchard, Liebreich, and Pouchet on the Continent, and of Thudichum in our own country, have resulted in the isolation of these toxic substances in healthy and morbid urine. It has been shown that they are physiologically produced in our bodies

[1] Brunton, Croonian Lectures, 1889, p. 96.
[2] "Ptomaines and Leucomaines," Paris, 1886.

and eliminated by the bowels, kidneys, skin and lungs. They exist in the blood where they accumulate if for any reason they are not got rid of, and under these circumstances we suffer from the effects of auto-intoxication; but there are two distinct methods by which nature provides that we should not poison ourselves with our own venom—viz., the elimination of these toxines by the organs of excretion and their destruction by oxygen. Of these two methods the most important is the process of oxidation, for most of these leucomaines are very readily oxidised, and, as Gautier has shown, it is by the constant renewal of oxygen that they are burned up and made to disappear, such of them as are not destroyed by combustion being more readily and easily eliminated after oxidation. Under normal conditions only a very small proportion of leucomaines is found in the urine; but if anything should interfere with the due oxygenation of the blood, or if the oxygen therein contained should be used up for the oxidation of other materials, then we find that there is a remarkable increase of leucomaines in the urine, pointing to an excess of these toxines in the blood, so that it would not be far wrong to describe the morbid condition of some patients as "leucomainæmia." In 1882 Bouchard demonstrated the presence of animal alkaloids in healthy urine and that they were greatly in excess in cases of infectious fevers, particularly in typhoid fever; while Pouchet observed them in the urine in certain cerebral maladies without fever. It is, however, in the class of disease so admirably described by Bouchard as "maladies per ralentissement de nutrition," *e.g.*, anæmia, chlorosis, gout, glycosuria, neurasthenia, and uric-acidæmia—that we find the clearest evidence of insufficient activity in the oxidation processes, with excess in the urine of the products of incomplete oxidation. Speaking for myself I would venture to assert that many phenomena of functional nervous disorders are primarily due to this deficiency of oxidation; that, as a consequence of this insufficient combustion, toxic substances accumulate in the blood and give rise to the train of symptoms—dyspeptic myelasthenic, encephalasthenic, and emotional—which we classify or generalise under the term neurasthenia.[8] Whether these toxic matters are

[8] See also Herter on "Intestinal Putrefaction in Certain Neuroses," *New York Medical Journal*, January 27, 1894; Macpherson on "Disinfection in

alkaloids or not, they appear to be capable of producing more or less profound disturbance in the functions of nutrition; and it may be that these extractives, nitrogenous and incompletely oxidised, exist side by side, as Gautier has suggested, with alkaloids which have been isolated and crystallised. The method employed for the detection of leucomaines in the urine is that which is described by Professor Alexander von Poehl

TABLE I.

Showing Daily Amount (in grammes) of Leucomaines and Urea passed during Twenty-four Hours for Ten Days by Four Healthy Persons unaccustomed to Exercise on Ordinary Diet.

First ten days, without exercise.		Second ten days, with exercise.		First ten days, without exercise.		Second ten days, with exercise.	
Leucomaines.	Urea.	Leucomaines.	Urea.	Leucomaines.	Urea.	Leucomaines.	Urea.
7·5	38	10	32	9	40	10	38
9·3	33	13	33	8	36	10	36
9·0	33	10·5	32	7	35	10	35
10·3	32	11·3	33	9	38	10	33
9·75	36	12·2	32	9	38	9	38
6·5	32	11·8	34	10	33	10	35
7·8	37	11·5	32	7	35	10	33
9·2	38	12·2	35	7	38	10	32
9·0	35	11·5	33	7	38	11	36
10·3	33	11·0	31	9	35	10	39
8·4	36	9·5	36	7·2	35	9·9	36
7·5	33	10·8	38	6·9	35	9·2	38
7·9	35	10·2	38	7·5	38	9·5	35
8·2	38	10·0	35	7·9	36	9·0	37
7·8	32	9·9	38	9·0	36	9·2	33
9·5	33	9·5	38	8·5	35	8·9	35
9·2	33	10·0	33	7·9	35	9·2	35
8·5	35	10·0	35	8·2	38	8·4	38
7·5	32	11·2	36	7·4	32	9·7	35
7·2	35	10·0	35	7·4	35	9·2	35

of St. Petersburg in his communication on October 10, 1892, to the Academy of Sciences of Paris on the "Rôle of Spermine in Intra-organic Oxidations," and is set down by him as follows:—"To 100 cc. of urine are added 25 cc. of hydrochloric acid, HCl (sp. gr. = 1124), and 10 cc. of a decinormal solution

Acute Insanity," *Journal of Mental Science*, January, 1893; and "Uric Acid in Causation of Disease," by A. Haig, London, J. & A. Churchill, 1894.

of phosphotungstic acid. The precipitate is composed of leucomaines as phosphotungstates." Von Poehl goes on to say that he estimated the nitrogen of this precipitate by the method of Kjeldahl, and in cases in which albumin or peptone was present these substances were eliminated by precipitating them with phosphotungstic acid in the presence of acetic acid. In examining urine for the presence of leucomaines I have closely followed the directions given by Von Poehl as above, save in regard to the Kjeldahl process for the estimation of nitrogen, which is of too complicated a character for ordinary clinical use. In every case the whole of the urine passed during twenty-four hours available for testing purposes has been collected, and from the mixed urine so obtained the necessary quantity for examination has been taken. (See Tables I. and II.) In some cases several observations have been made on the urine passed in the same twenty-four hours, and the morning and evening urines in a few cases have been separately tested.

Each specimen has been tested for albumin by the heat and nitric acid test, and in some cases after filtration by the acetic acid and ferrocyanide of potassium test. Similiarly in every case the biuret test for peptones has been employed. Albumin has not been detected in the urine in any of the cases here recorded; in those in which the presence of peptone was indicated by the biuret test the urine has been filtered after the peptone was precipitated by the phosphotungstic acid in the presence of acetic acid, and the filtrate so obtained has been treated with hydrochloric and phosphotungstic acids in the proportions indicated by Von Poehl. In estimating the quantity of the precipitate of phosphotungstates each filter paper has been separately weighed before use, and from the total weight of the dried precipitate and filter paper after filtration the weight of the filter paper has been subtracted. The filter papers employed were those usually regarded as chemically pure, and the weights were taken by means of Becker's balance sensible to $\frac{1}{2}$ milligramme. Every precaution was taken to avoid error in carrying out the tests as far as they go, but I am aware that they are open to objection on the score of accuracy in the description of the precipitate. It is maintained by scientific chemists whom I have consulted in the matter that substances other than

leucomaines and ptomaines are precipitated from urine by the reagents employed in the proportions cited, and one of my friends has been good enough to perform control experiments with Hofmeister's and other tests for animal alkaloids given by Von Jaksch in his work on "Clinical Diagnosis."[4] In trying several of these reactions it was found that the results differed materially, and it appears therefrom that the excessively complicated nature of some of the bodies present in healthy urine, and still more so in urine under pathological conditions, renders it well-nigh impossible to be sure as to what one is doing. Under these circumstances lengthy in-

TABLE II.

Showing Daily Amount for Thirty Days in Grammes of Leucomaines and Urea passed in the Urine of an Anæmic Person treated by Rest, Massage, and Exercises.

Leucomaines.	Urea.	Leucomaines.	Urea.	Leucomaines.	Urea.
6·5	33	7·5	36	7·9	38
6·2	33	7·2	38	8·2	38
6·5	29	9·2	38	10·2	36
6·5	32	8·5	35	10·0	36
7·0[1]	33[1]	7·0	33	8·5	36
8·2	35	7·2[2]	33	8·5	35
7·5	35	9·5	38	9·2	35
9·2	35	10·0	36	9·5	35
7·5	36	10·2	38	9·0	35
7·2	33	9·2	38	7·5	36[3]

[1] On fifth day massage commenced.
[2] On sixteenth day active exercises added.
[3] From thirtieth day onwards the average of leucomaines passed was 7·5 grammes, and of urea 35 grammes.

vestigation would be necessary to show where the differences lie, and the work would be very complicated. Attempts have been made to eliminate the source of possible error, but without any marked success. Von Poehl, however, is my authority for the methods employed, and to use his own words, "le précipité se compose de leucomaines à l'état de phosphotungstates." The urea has been estimated by the ureameter of Southall, and it is interesting to note that in comparing the relation between the weight of the

[4] Von Jaksch, "Klinische Diagnostik," p. 116.

phosphotungstate precipitate and that of the urea as estimated for the same twenty-four hours it will generally and almost invariably be found that they are in inverse ratio. When the proportion of the precipitate is high the estimated quantity of urea is low, and *vice versâ*. The exceptions to this have been so rare that they may be regarded as unimportant.

In regard to Table III., it must be borne in mind that the amount of urea has been computed from the volume of nitrogen gas evolved. But this nitrogen may represent urea *plus* other nitrogenous urinary constituents, normal and abnormal; therefore, if my experiments are correct, the presence of leucomaines appears to interfere with the elimination of azotised waste product, for even when the phosphotungstate precipitate is heavy the volume of nitrogen does not seem to increase proportionately. While, then, I do not desire to lay great stress upon the comparative quantity of the leucomaine precipitate on the one hand, and that of urea computed by the hypobromite test on the other, as the conclusions drawn therefrom may be based on error, there still remains the clinical fact that when Von Poehl's test shows a heavy deposit certain conditions of disturbed function appear to be associated therewith, and it would appear that these functional derangements may be regarded as symptoms of retention poisoning. That uric acid is not the only factor in the production of the symptoms which I believe to be due to the presence of incompletely oxidised bodies in the system is shown by the fact that in many cases there is distinctly low tension.

Now in every case of healthy urine the amount of the precipitate (which for the purpose of this address I shall assume to be correctly deemed to be composed of leucomaines or of these alkaloid *plus* other products of nitrogenous waste incompletely oxidised) is very small compared with the quantity thrown down from morbid urine. Again, the amount of urea, although it varies somewhat in health and disease, is usually greater in the former case. In a case of melancholia or profound depression, in which an attack of influenza for the time being was attended by complete remission of all the mental symptoms, the patient during the period of pyrexia losing all despondency, dread, and insomnia, it was most remarkable to see the fluctuation in the amount of leucomaines

before, during, and after the pyrexial attack. (See Chart I.) During the first four days of the disease the temperature rose from 97·8° to 102·5° F., with an intermission of one degree on the evening of the third day. From this point it gradually declined, reaching the normal on the ninth day and never again rising, though occasionally subnormal. The quantity of urea excreted was 26 grammes on the first day. From this point the quantity rose considerably with the temperature, reaching 40 grammes on the fifth day, and declining thence to 33 on the twelfth day, between which point and 35 grammes it remained. The quantity of leucomaines was 17 grammes at the beginning; by the third day it had risen to 21, whence it declined steadily to 13. During the following twelve days it remained at this point or below, save that on two occasions it rose to 15 and on one dropped to 10. On the seventeenth day it suddenly fell to 9·3. Those who are familiar with cases of nervous depression often meet with those of intermittent melancholia in which sometimes with regularity, at others irregularly, the patient presents all the features of most profound depression and mental morbidity, with abject inability to believe that there is any hope of betterment or of avoiding catastrophe on one day, and shortly after, without apparent cause, the demon of misery, irritability, and dejection is supplanted by cheerful freedom from all mental depression and physical malaise. How are we to account for these hitherto inexplicable variations in the subjective symptoms of one and the same individual occurring within a few hours? I believe that the explanation will be found in the ebb and flow of the tide of toxines manufactured and accumulated in the system. The habits of these persons are often sedentary, or tend to become so under the influence of the weird sensations in the head, the vague disorders of the digestion, and the semi-inco-ordination of the limbs from which they suffer. On examining the urine in such cases, before I was acquainted with Von Poehl's test for leucomaines, I often noticed the presence of oxalates and urates in excess and the small excretion of urea, in one instance the amount per diem of this last substance falling as low as 24 grammes. Since I have employed Von Poehl's method only two opportunities have arisen for noting the incidence of leucomaines in persons suffering from paroxysmal neurasthenia. In both

CHART shewing incidence of Leucomaines and Urea in a case of Melancholia just before, during and after an attack of Influenza.

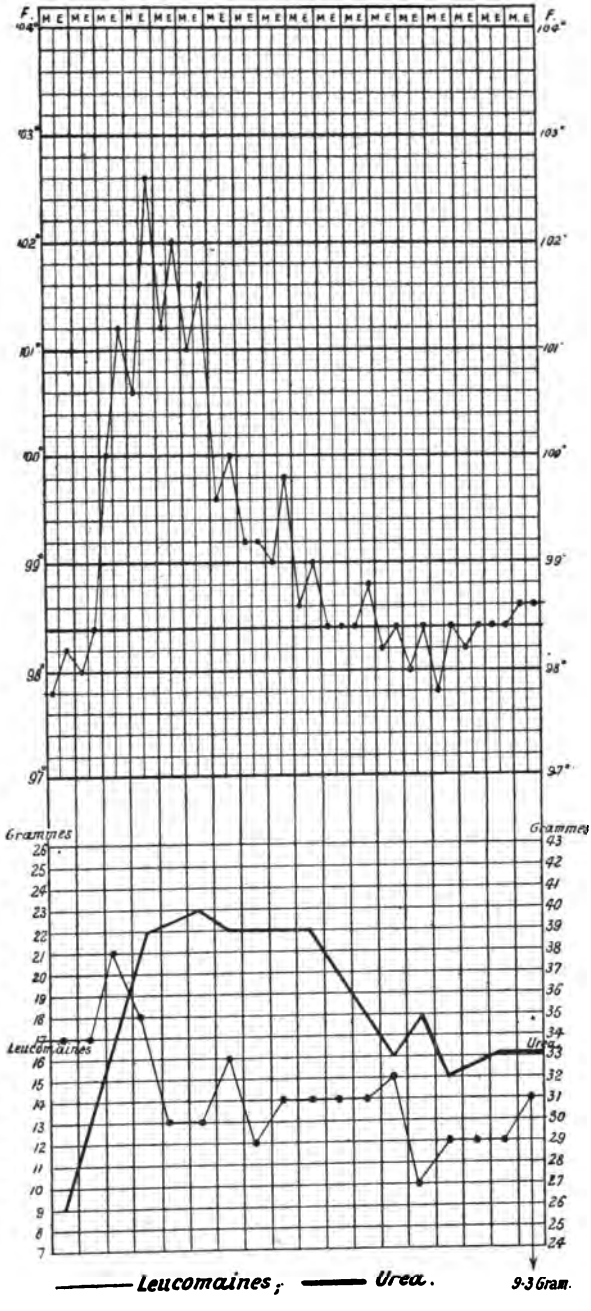

CHART I.

cases the attacks of mental and physical exhaustion have come on without any cause assignable by the patients. In each case vertical and occipital headache, insomnia, mental agitation, hopelessness, and emotionalism have been attended by extreme physical languor and general aching weariness in the back and limbs. Both occurred in otherwise healthy men leading active lives, and certainly in one there was no psychical or physical cause for the sudden supervention of neurasthenia. In the other, possibly overwork of a sedentary nature may be regarded as a determining factor. Now on examining the urine on each occasion of recurrence of the nervous symptoms a heavy precipitate of leucomaines was observed. At the commencement of treatment by vigorous massage, rest, a light nutritious diet, and mild saline aperients the amount of leucomaines excreted at first increased, but in the first week there was a decrease in the precipitate, which gradually fell in the course of three weeks in one case, and five in the other, to a small quantity, no greater than has been observed in health, while the urea excretion increased. (See Chart II.) *Pari passu* with these changes in the urinary conditions the nervous symptoms of these patients improved and the attack passed off. Now it may be quite fairly alleged that since in the one case complete remission had occurred without any treatment on more than one occasion credit is not to be too readily given to the means employed for the oxidation and elimination of the toxines; yet in face of the evidence in the other case which I shall lay before you, I think that incomplete oxidation of toxines having been recognised during the attack, which passed off with a diminution of their appearance in the urine, it may be conceded in the light of the future history of this patient that the advantages of oxidation were fully established in his case. This patient, who had been almost entirely incapacitated for his usual occupation during five years by reason of constant breakdown, mental and physical, has kept himself in good health by following my *régime* in regard to exercise. Before he came under observation he had led a very sedentary life, never taking any exercise worth speaking of. During the last two years he has been free from his old enemy, only rarely consulting me—I think thrice only—for slight occipital headache. This happy issue out of his affliction I attribute

to the fact that he is constantly employing his leisure in doing those things which are requisite and necessary as well for the body as the soul. He plays lawn-tennis, fences, sculls, and rides according to the season of the year, and has lately developed a very pretty taste for golf. In other words, he is fostering the processes of oxidation initiated by massage and kept up by healthy, vigorous exercise.

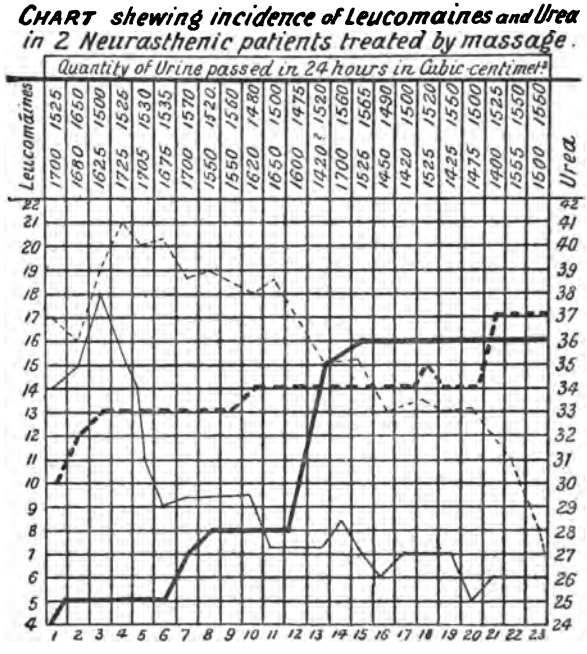

CHART II.

It would be easy for me to multiply instances from my case book illustrating the advantages of oxidation in cases of anæmia, glycosuria alternating with uricacidæmia, and other maladies which are obviously conditions associated with incomplete oxidation, in which the promotion of the oxidation processes by the employment of massage, athletic and mechanical exercises, and the use of red bone marrow or

injections of spermine, has been attended by the happiest results; but time will not permit, and I will only cite one case which has recently come under my notice fully bearing out the advantages of oxidation in auto-intoxication. A very vigorous, robust friend, who is one of the most athletic of muscular Christians I have ever met, was prevented by an accident from carrying out his usual round of healthy exercise. He straightway fell into a melancholy, peevish condition and consulted me. We devised means for repairing the damaged ankle and I bade him resume his accustomed pastime. While awaiting the opening of the shooting season he accepted an invitation to a country house which for some reason fell through, and my patient, disappointed of his lawn-tennis, became more irritable and felt himself much aggrieved. In his urine I had found ample evidence of deficient oxidation, and suggested various exercises possible in town, of which he would have none; but one morning he arrived in my consulting room radiant and glowing with good health and spirits, when I found that he had taken a leaf out of Mr. Toole's book in the play of "The Upper Crust." You will, perhaps, remember that the gentleman of sudden fortune whose part is played by Mr. Toole, after being annoyed by the snubs of his aristocratic guests, sticks his thumbs into his armholes and truculently announces, "That rascal Grubbins didn't touch 'is 'at to me this mornin'; I'll go and give 'im something." My friend, in much the same frame of mind, having received an annoying letter among his morning correspondence, went forth and hired a pugilist for a twenty minutes' "mill," whence he came back to me announcing where he had been. All the irritability and despondency had been worked off in self-defence, and due oxidation had been re-established. The next day there were only traces of leucomaines in the urine. (See Table III.)

Gentlemen, at the outset I warned you that my remarks would assume a suggestive, not a constructive character. Now what I am going to say will be speculative rather than suggestive, so that it may fairly be regarded as unpractical and therefore valueless; but we who are not always able to verify our opinions, and who carry out the work of our lives and base most of our practice on what, after all, is only opinion, know that, however valuable scientific certainty

must be, there are times when unconscious knowledge, medical instinct, intuition—call it what you will—comes to our aid and guides us to a correct decision, why and wherefore we are never able to formulate. This confession of a fact, which we all recognise even if we will not acknowledge it, must be my excuse for the following speculations. Granted that there is a great family likeness between the toxines due to physiological processes and those of bacterial origin, that both may be anaerobic and by oxidation will be rendered easier of elimination, does it not seem probable that in most

TABLE III.

Effect of Pugilistic Exercise on a Healthy Person Temporarily Sedentary.

Amount of Urine.	Leucomaines.	Urea.	Condition.
	Grammes	Grammes	
1600 cc.	4·5	38	Headache owing to lack of usual exercise; irritable.
1525 cc.	5·9	42	
1500 cc.	4·5	39	
1480 cc.	6·9	35	
1500 cc.	7·2	33	
1275 cc.	6·9	33	Exercise.
1625 cc.	13·2	35	Cheerful.
1550 cc.	10·0	38	Quite well.

cases, if not in all, the presence of pyrexia denotes the existence of toxæmia, and fever is only a vigorous and sometimes over-energetic method of nature to oxidise these matters and so get rid of them either by burning them up or by making them ready for excretion? Under these circumstances high temperatures, so long as they are not hyperpyrexial, may not be altogether without beneficence. If I do not weary you, let us note for a moment the parallelism between the prodromatous symptoms of the acute fevers and the usual concomitants of chronic functional nervous disorders. In both we find general malaise, rachialgia, prostration, nervous and muscular, disordered digestion, headache, derangements of sleep, and mental disturbance. Nor does the similarity end here, for in not a few instances of so-called nervous maladies we meet with pyrexia, as in the hysterical hyperpyrexia known to us all. May not the fevers of over-fatigue, of

hysteria, and of zymotic disease proceed from one and the same cause? Not, indeed, of common origin, for in the one set of cases we are dealing with auto-intoxication without the intervention of bacterial agencies; in the other the infection is introduced from outside. How often we see the temperature of little children running up to a great height as the result of some transient disorder of digestion and subsiding equally rapidly under the administration of a little dose of calomel, at once an intestinal disinfectant and an eliminant. Is not the hyperpyrexia in these cases an effort of nature to oxidise, and thus aid in the elimination of leucomaines or ptomaines absorbed from the gastro-intestinal tract? There is, however, another small point in reference to disturbance of digestive function to which I should like to allude before passing on to the brief consideration of other conditions pointing to the importance of oxidation. In cases of chronic disease depending on, or associated with, deficient oxygenation, we find dyspeptic symptoms markedly present, and of these one of the most frequent causes is butyric fermentation. Now, as you are aware, while lactic fermentation is aerobic and normal, when not excessive, butyric fermentation is always abnormal and anaerobic. This condition is very common among anæmic persons and those suffering from wasting maladies; sometimes, also, I believe, it is not uncommonly present in pneumonia. Under such circumstances the administration of the so-called ozonised water, which is really a solution of peroxide of hydrogen, proves valuable in checking the fermentation process. I have not myself had opportunities of testing the value of what our French neighbours manufacture and describe as "l'eau oxygénée" in acute maladies; but in the digestive troubles of anæmic, chlorotic, and obese subjects I have found this preparation exceedingly useful; indeed, I am not at all sure that I have not seen benefit arise from the simple practice of swallowing air, although under ordinary conditions of flatulent dyspepsia, due rather to lactic than to butyric acidity, we all know how greatly the discomforts of a recumbent patient are increased if we do not teach them to take liquid nourishment without swallowing quantities of air. May not the introduction of oxygen into the stomach prove useful in arresting the suffering which anaerobic fermentations set up, greatly adding to

the already heavy burden which the patient with pneumonia has to bear? This gastric complication in acute maladies and its local treatment may be a comparatively trivial matter regarded in the light of the more serious and dangerous conditions arising out of deficient oxidation; yet, since we are not only engaged in the endeavour to save life and arrest disease, but also to assuage suffering and relieve pain, it may not be altogether beneath your notice.

I suppose there are few who would object to the general statement that all anæmic patients are constipated; but is it not equally true that most sufferers from constipation are anæmic or present signs of deficient oxidation? Every day clinical observations appear to point to the existence of more or less coprostasis as the cause of the bloodless condition. Compare the headache, foul tongue, depression, and irritability produced by a large dose of quinine with the similar conditions accompanying constipation and the absorption of toxines arising therefrom. Ehrlich's observations on the effects of quinine upon living cells have shown how these are deprived of their oxygen and reduced from a state of amœbic activity to an inert mass of almost spherical protoplasm. Now it has been shown that leucomaines and ptomaines are very readily oxidisable, or, in other words, that they are also like quinine, powerful reducing agents, and if we remember that oxidation and reduction processes are constantly alternating within the cells it is easy to understand how readily this rhythm may be upset by the presence in the blood of these poisons. On this point it would be interesting to obtain further information as to the relationship which I believe exists between the presence in the blood of toxic substances and the pale, almost waxy appearances associated with long continued habitual constipation. We know that the large intestine takes a great share in the work of absorption. After the richer elements of the food have been elaborated, prepared, and absorbed by the stomach and small intestine, in the splendid economy of nature that which remains is so dealt with that we may regard the colon as the "chiffonnier," the mass of material finding its way into this last receptacle, being, as it were, carefully picked over, slowly and laboriously turned and stirred, until nothing that can be utilised for the purposes of nutrition is suffered to escape. When this purpose, however, takes too long in doing

the chemical processes assume a putrefactive nature, and thus follows the introduction of poisonous in place of nutritive material. Now one feature in the character of ptomaines and leucomaines is their greed for oxygen. They are among the most easily oxidisable nitrogenous bodies, so when they reach the blood, either by absorption from the intestines or as the result of tissue waste, it is not difficult to explain the anæmia, blood starvation, and deficiency of oxygen which we recognise as salient symptoms in the condition of so many who consult us. The same struggle for life which has been so brilliantly described by the Russian scientist as existing between phagocyte and microbe would appear to occur chemically rather than physically between the invading horde of leucomaines and the army of peaceful red corpuscles engaged in the labour of obtaining, conveying, and giving up the oxygen necessary for the life of the tissues. How often do we not see the history of communities simulated—nay, almost repeated—in the physiological story of our own bodies? The unstable, half-starved, ill-conditioned nomad sweeps down from his mountain fastnesses upon the hard working, somewhat sleek, and certainly unwarlike pastoral population of the plains. So it is with these conditions of deficient oxidation; not only do we find bodies formed which are in themselves evidences of oxygen poverty, but when formed and absorbed from without they not only seize upon the surplusage but deprive the blood and tissue cells of their fair share of oxygen. In examining the blood of persons suffering from constipation who have also exhibited anæmic and neurasthenic symptoms, the corpuscular value is not often found to be decreased, but the proportion of hæmoglobin is usually below the normal in all such cases, so that in conditions of bloodlessness due to auto-intoxication we do not find at first a diminution in the numbers employed for conveying oxygen to the tissues, but a deficiency in their load; thus the anæmia is qualitative rather than quantitative. Under these circumstances elimination alone will not suffice to restore the health of the patient, but means must be taken to promote also oxidation processes in themselves favourable to the destruction or evacuation of the offending matters.

It is interesting to note in connexion with the processes of oxidation the swing of the therapeutic pendulum of the day. We have our attention on the one hand constantly drawn to

the virtues of numerous antipyretics of coal-tar origin, all of which owe their action to their reducing qualities, while on the other hand we are beginning to recognise the value of animal extracts, the majority being remarkable for their potency as oxidising agents. I cannot help thinking that we are apt to be too prone to avail ourselves of the antipyretic series, while perhaps we are not plucky enough to make as much use as we might of the oxidising properties of organic extracts. We find that retention of toxines, the products of incomplete oxidation, means prostration, depression, and general misery, whereas their elimination is attended by cheeriness and restoration to comfort of body and peace of mind, as in the cases already cited, where influenza arrested melancholia and a bout with a prize-fighter restored equanimity.

I have tried to suggest some of the advantages of oxidation and the probable relationship between various obscure nervous states and deficient oxygenation. In our practice to-day we are called upon to treat a generation which is beginning to escape from the hereditary consequences of mercury and bleeding prescribed to their forbears. Evidences of attenuation are growing fainter, robust and sthenic types are not so rare as heretofore. The "Lydia Languish" of yesterday is being ousted by "Mary Fenwick's Daughter" of to-day; but we still meet with examples in both sexes of persons who, in spite of the fact that they were evidently meant to take plenty of healthy exercise and to breathe deeply draughts of fresh air, will not find time or opportunity for duly oxygenating their blood and oxidising their tissues. It is our duty to enforce on our patients the paramount necessity of caring for their bodies, and in a race so addicted to out-door pursuits and so fond of sport it is not often that difficulties are placed in our way. But spasmodic efforts to perform the allotted task make pain of pleasure, and too vigorous exercise after a long spell of inaction does more harm than good. The combustion processes must be maintained with regularity as well as vigour. We must endeavour to foster the chemical interchange between the blood and the tissues necessary to health by such means as will induce the introduction of sufficient oxygen and the more active oxidation of organic matters, raise the temperature, increase the secretions, and stimulate respiration and circulation. In this way will

"The organs, though defunct and dead before,
Break up their drowsy grave and newly move
With casted slough and fresh legerity."
Henry V., Act 4, Sc. 1.

In conclusion, gentlemen, I trust that I have not trespassed too freely on your patience by the length of my discourse and the poverty of its interest.

Permit me again to thank you for the honour you have conferred on me, not only in naming me as your President, but in so kindly giving me your attention to-night.

REMARKS UPON "GASTRIC ULCERATION."

By DONALD W. C. HOOD, M.D., F.R.C.P.London.
Senior Physician to the West London Hospital.

WHEN your Council asked me to undertake the opening of this important discussion upon "Gastric Ulceration," I accepted the honour with no little diffidence. I felt conscious that I was unable to bring before you any new facts with regard to this formidable lesion. No novel methods of treatment have proved of material use in my hands and I am not aware that even our leading pathologists have been able to produce any satisfactory explanations which will tend to solve the mystery of its birth. Still, I think good may be done by going over old ground, and by attentive consideration of our personal experiences in any portion of that vast field of observation—clinical practice. I have, therefore, ventured to bring before you, in a brief and imperfect sketch, some of what have appeared to me to be important points for observation and attention in the etiology, course and treatment of gastric ulcer.

My remarks, brief as they must be, will be confined to consideration on the diagnosis of those cases in which symptoms are indefinite, often ambiguous.

I shall ask your attention to the importance of guaging to the best of our ability the value of the factor hæmorrhage, as a symptom of ulceration, and I shall particularly allude to

the vital importance of a differential diagnosis between the various forms of acute abdominal pain, with the view of recognising, at the earliest possible date, the existence of perforating ulcer.

One morning, some eighteen years ago, I received a note from the late Sir William Gull, asking me to call and see a patient, and to report to him my opinion on the case.

The patient was a gentleman about 40 years of age, who had been for the previous six or seven years a sufferer from indigestion which troubled him at irregular intervals. The attacks had varied much in intensity and in symptoms, at times amounting to little more than mere discomfort after food; at others a very gastric storm, accompanied with vomiting, pain, pyrosis and the like completely prostrated him. He had seen many physicians and had been under treatment of various sorts and kinds. His malady had been considered as one of functional disturbance, probably a neurosis.

After hearing the long history full of incident and suffering, I felt strongly that the symptoms carefully weighed, appeared to point to more than functional perturbation. I expressed my opinion that the cause of illness was recurrent gastric ulceration. Sir William then placed in my hand a letter from a distinguished physician, lately deceased, in which he described the medical history of the patient who had been under his advice and care for many months. Therein he stated that after watching the case he had been forced to the conclusion that all the symptoms were referable to the nervous system; that in fact they were caused by some central trouble.

For reasons which I need not now enter upon, the future charge of the case devolved upon me, and the patient remained under my care for the succeeding two years.

During this time I had numerous opportunities for observing the paroxyms of acute dyspepsia, each attack being accompanied by symptoms which are usually met with in gastric ulcer, with two important exceptions, namely, food frequently relieved the pain, and during the entire course of illness hæmorrhage had been absent.

Treatment at last began to tell upon the disordered viscus. Absolute rest in bed, a carefully regulated diet with free use of opium gave relief. Matters gradually improved and at the

end of the time I mentioned, two years, the patient was considered well. He had lost all dlscomfort attending digestion, had no sickness or pyrosis and had gained weight, scaling more than he had ever previously done. He had been well for a month or two when in making a sudden movement, turning quickly round, he was seized with violent, acute, abdominal pain and within twenty-four hours was dead.

A small gastric ulcer, perfectly healed, had formed adhesion at its base to the abdominal parieties, the sudden movement had torn through the adhesion, and a direct opening existed between stomach and peritoneal cavity,

At the autopsy the state of stomach wall gave a clear and decided solution to all the gastric turmoil that had existed for so many years. At the pyloric end were numerous cicatrices and I was able to distinguish at least twenty healed ulcers.

In January, 1892, a young woman, aged 21, was admitted into the West London Hospital under my care, suffering from an attack of acute pleurisy. Three years before her admission into the hospital she had been treated for gastric symptoms and was then told that she had an ulcer of the stomach. She quickly recovered from the illness and since that time had had absolutely no difficulty attending digestion. We were very careful in our enquiries upon this point, but were assured that up to the time of the illness for which she had been admitted, and which was marked only by the ordinary and usual symptoms of pleurisy, there had been no trace of dyspepsia. I need not detail the long history of the case. The pleural effusion was found to be purulent, the pus offensive. Stomach symptoms supervened, recurrent hæmatemesis accurred, and the patient died from exhaustion. A *post-mortem* examination disclosed an extraordinary state of stomach.

The viscus was found to be divided into two distinct cavities by a dense fibrous cicatricial band which measured three inches in length when laid open. The cardiac end of the stomach was contracted into a globular cavity about the size of an orange. Into this cavity the œsophagus opened, and here the rugæ were well marked, and it appeared as if this was the sole remaining portion of the stomach functionally intact; the pyloric portion, or rather that portion

lying to the right of the fibrous band being thin, without rugæ and absolutely without any trace of pyloric ring. The upper part of the stomach, firmly adherent to the diaphragm, was perforated by a long sinus running up through the dense cicatricial tissue and penetrating the pleural cavity had there set up a septic pleuritis which alone caused those symptoms for which the poor girl was admitted.

Georgina Woods, aged 22, a domestic servant, was admitted into the Baker ward on February 5, 1885. On the afternoon of the 3rd she had lifted a heavy weight. Abdominal pain followed. She vomited and had been constantly sick since. On admission, about forty-eight hours after the primary seizure of pain, her most distressing symptom was that of constant retching. Her abdomen was not markedly tender, but within the next twenty-four hours became acutely so, and there was evidence of peritonitis. The patient rapidly lost strength and sank. The cause of illness was found to be a perforating gastric ulcer on the anterior surface of the stomach. She was a well nourished, healthy looking young woman, and stated that previous to the attack she had been perfectly well, though her friends informed us after her death, that she used to complain of indigestion.

I will ask your indulgence to permit me to refer to one more case to complete the clinical picture I am desirous to place before you as preface to some few general remarks upon the subject we propose to discuss.

Minnie Taylor, aged 18, by occupation a booking clerk, was admitted into the North West London Hospital under my care in November, 1890.

She was suffering from the result of a rather profuse attack of hæmatemesis. She stated that she had vomited a large quantity of blood and clot. Although no member of the staff saw the vomited matter, from the extremely bloodless hue of the patient I have no doubt but that the hæmorrhage had been copious. The duties of the patient necessitated a sedentary life, she took but little exercise and was kept at the desk for eleven hours a day. She had noticed that she was losing colour and becoming pale. She was breathless on exertion, had some palpitation and for the past few weeks had felt discomfort and nausea after food.

Five days before admission she fainted and on coming to

she vomited a large amount of blood. After this attack she felt much better.

From the time of these hæmorrhages till her discharge from the hospital, a period of twenty-five days, she continued to improve and had no symptoms worthy of note. She could eat full diet without any discomfort, and left the hospital apparently in perfect health.

I have now very briefly alluded to four clinical cases each of which may be considered as more or less typical of a group, subdivision or variety of some of the various forms under which we practically meet with gastric ulcer.

The first marked by extreme duration of symptoms, by its recurrency, sufferings and general distress of the gastric functions; yet with all, misleading some of the best opinions of the day, brings forcibly before us the extreme difficulty of differentiating between dyspepsia of organic and that of inorganic or functional or neurotic foundation.

The second brings before us the fact that even an extreme form of ulceration may exist for a long period of time and yet be without a symptom calling attention to the organ diseased.

The third attracts attention to the value of sharp, acute abdominal pain, even without any special digestive trouble, as denoting acute perforation. It suggests to us the importance of making very careful study of that important symptom—pain over the abdominal area; for these are cases in which the brilliant advances made in abdominal surgery give us hope, that in the future, we shall be better able to cope with one of the most dangerous accidents that human flesh is heir to. It belongs to that series of cases in which pharmacy is of no value, often harmful, every moment is precious, and the harmony of the issue can only be promoted by surgeon and physician working hand in hand.

The fourth group, one to me of peculiar interest, is strikingly common; we are all familiar with the hæmatemesis of the young, anæmic girl. Does such hæmorrhage invariably denote an organic breach of surface? Or may it not be a hæmorrhage in many ways akin to that so constantly seen in simple, but profuse, epistaxis?

Hæmorrhage assumes an important position in the symtomatology of gastric ulcer, and it will be well to consider this special symptom somewhat in detail.

What is the value of hæmatemesis as denoting an organic lesion of the stomach? How far are we justified in assuming the presence of ulcer as causal in producing dyspeptic inconvenience in those cases where hæmorrhage is absent? Probably each one of us here present this evening have asked ourselves such questions, and have doubtless felt no little embarrassment in giving a decided answer.

You are aware that many, if not all, of our authorities on ulcer of stomach give a high value to the symptom hæmorrhage, and you will find it very generally stated that a diagnosis of gastric ulcer is almost impossible in the absence of this clinical symptom.

There cannot be a doubt that if we do wait until hæmorrhage does occur, we shall be in danger of under-estimating the significance of mere dyspeptic symptoms in a vast number of those patients who suffer from indigestion, but who owe their symptoms to organic lesion.

It is extremely common for patients to pass through months and even years of gastric trouble, evidently due to organic breach of surface, and yet, during the entire course of their illness, all degrees of hæmatemesis may be absent. In the first case, a case verified by an autopsy, an erroneous view of the true nature of the disease was principally due to the fact that no hæmorrhage had occurred during the entire conrse of illness.

For a moment, consider the cases in which sudden perforation of a gastric ulcer is the primary evidence of disease. What proportion of these patients have suffered from hæmorrhage? I cannot state the exact percentage, but the examples are so few as scarcely to influence the statement that rarely, if ever, acute perforation of stomach, especially when occurring in early adult life has been preceded by hæmatemesis. I do not include in the category those patients who have suffered previous to perforation from evident symptoms of gastric ulcer, but rather I refer to that class in which peritonitis is the initial symptom, and where dyspepsia has been vague and of little inconvenience.

I feel, most strongly, that we are often in danger of neglecting those precautions essential to success when treating gastric ulcer, by relying too much on hæmorrhage as indicating ulcer. The *post-mortem* room will be found providing

instance after instance where gastric ulceration has existed for long periods and no hæmatemesis has resulted.

Let us now look at the reverse, namely, those cases where hæmorrhage, I might also say where hæmatemesis alone, has been considered as sufficient warranty for a diagnosis of ulcer. To examine the symptoms with care, the factor age has to be considered. Hæmatemesis is of varying significance according to the time of life at which it occurs. Thus we meet with hæmorrhage in early adult life, middle life, and advanced life; speaking roughly, such hæmorrhage may be classed under the three heads, ulcer, cirrhosis of liver, *i.e.*, portal, and malignant. In the *Transactions of the Medical Society of London* for 1892, vol. xv., will be found a paper by myself, in which I have attempted to show that the hæmatemesis of early adult female life, may possibly have a different explanation to that usually accorded to it, and that this hæmatemesis puellaris is probably not caused by gastric ulceration. I have not time now to discuss the subject in its detail, and can only now refer to the principal arguments which appear to me to separate the hæmorrhage of girl life from other forms of hæmatemesis. The hæmorrhage of early adult female life is almost limited to the sex. Perforating ulcer of the stomach is as often met with among males as among females. Now this statement is contrary to that usually expressed in our text-books, but I am glad to find that it is supported by Dr. Pye-Smith in his Lumleian lectures on the etiology of disease. He observes, "With respect to two important diseases which are generally believed to be much more frequent among women than men, I believe that there is no such marked difference between the sexes. One is gastric ulcer; this, though no doubt common in young women, is also common among men of all ages." He then proceeds to quote the ordinary statistics which are usually referred to when treating of the comparative frequency of gastric ulcer among males and females, and which, a very important point, are gathered from clinical and not from pathological evidence, and adds that he "was surprised to find that on taking 101 cases of gastric ulcer from the *post-mortem* reports, that there were 59 men and only 42 women, victims to this form of disease. From such statistics collected for me, I found that during twenty years, 1870-1890, 16 patients were admitted into Guy's Hospital suffering from

peritonitis, the result of a perforating gastric ulcer; 8 of these patients were males and 8 females.

If the hæmorrhage so frequently observed during girl-life were invariably dependent upon ulceration, it is at least strange that the attacks do not prove more fatal than is the case. Surely if the ulcer had perforated a vessel so large as to give rise to the severe hæmorrhage we are often accustomed to see, further perforation of the tissues of the stomach would be prone to follow.

During the twenty years above-named, I ascertained that 155 cases of hæmatemesis were under treatment at Guy's, of these 66 were considered as due to gastric ulcer; of these, 29 were patients under 30 years of age, 2 only being of the male sex. None of the patients succumbed to the attack, and a careful examination of the case books and *post-mortem* records for twenty years of one of our largest Metropolitan Hospitals (Guy's) brings out the striking fact that during this period of time there had been no single recorded case of fatal hæmorrhage occurring in the person of a young female, the subject of severe hæmatemesis. I have private notes of 32 cases, but I have never as yet seen a fatal issue, though in many of those patients the hæmorrhage had been most profuse.

Decided amelioration of gastric discomfort frequently follows this kind of hæmorrhage, but, inasmuch, as the fact of hæmorrhage, if directly caused by ulceration, shows extension of the disease, it is difficult to understand why dyspeptic symptoms should decrease in severity on the occurrence of bleeding. I am alive to the fact that in a small proportion of cases, pain and digestive troubles still exist or may indeed increase after an attack of hæmatemesis, but I believe the explanation to be that in some few instances ulceration *follows* the hæmorrhage, and of course I do not for a moment deny the possibility of a gastric ulcer directly causing hæmorrhage at any period of life.

If so be the hæmorrhage which I designate hæmatemesis puellaris is not due to actual ulceration, can we differentiate between such cases and those where an ulcer is the cause?

During the first few hours of the illness an accurate diagnosis is impossible, but when we know the age of the patient, have a history of anæmia of some duration, and when we contrast the dyspepsia of the patient with that met with in

gastric ulceration, I believe we have ground for assuming that hæmorrhage from the stomach of a young anæmic girl is open to other explanations than that of a perforating or extending gastric ulcer. Further, such a view of hæmatemesis at this period of life will tend to explain the anomalous and conflicting testimony of clinical statistics as compared with those gathered from a surer field—the *post mortem* room.

The diagnosis of gastric ulcer in many a case is as clear as noon day sky; in others conflicting, ambiguous, indefinite symptoms mask the true nature of the illness. Success in diagnosis in doubtful cases can only be arrived at by a thorough knowledge of the various forms and degrees of dyspepsia. We are bound to acknowledge that numerous patients suffer from organic lesion of the stomach with but trifling dyspeptic troubles, and that this formidable affection as regards its complete symptomatology has no pathognomonic sign. Such being the case, pronounced, continual dyspepsia assumes greater importance and in many instances warrants that special treatment which ulceration necessitates.

At this moment a dissertation on those forms and varieties of dyspepsia which simulate or are simulated by gastric ulcer is uncalled for and beyond the limits of time imposed upon me this evening, but from my personal experience with ulcer of the stomach I consider that any pronounced dyspepsia, by which I mean pain or discomfort after food, vomiting, pyrosis, which does not yield to ordinary remedies, should be treated from that standpoint, which I maintain should invariably be insisted upon when advising patients in whom we may suspect the presence of ulcer. The first essential is complete rest, physiological and general. The patient should be confined to bed and dieted as the individual exigencies of the symptoms may require. In many, simply milk food with an alkaline mixture and a few drops of tincture of opium will lull and assuage all pain and irritation. In another, rectal alimentation must be rigorously carried out and full doses of opium can be used with the greatest benefit.

In my own hands, preparations of opium have proved of far more value than bismuth, and in the milder conditions of indigestion, especially that seen in anæmic patients of both sexes, a mixture composed of sodium carbonate, aromatic spirit of ammonia, and five minims of black drop with some

bitter such as calumba, has quickly restored tone to the stomach. When anæmia is more decided, and the pain often very severe, I have been surprised at the good results following the administration of a few drops (four to five) of the tincture of the perchloride of iron combined with the same quantity of liquor arsenicalis hydrochloricus. It is common experience that these cases are also much benefited by saline purgatives. The sudden, alarming, perilous symptoms attending immediately upon perforation can only be successfully met by knowledge of the various kinds of acute abdominal pain. Personally, after an experience which now extends over a quarter of a century, I must confess to often feeling the greatest difficulty in making an accurate diagnosis in these distressing cases. The last two that came under my care, both within the past few months, I wrongly diagnosed; although the possible presence of perforation was kept in view, I did not consider that in either case the symptoms warranted my asking my surgical colleague to explore the abdominal cavity. We are apt to be biased by our latest experience, and I have within the last year or so seen several cases in which typhlitis—I use the term in its generic sense as denoting inflammatory mischief in the neighbourhood of the cæcal appendix—has commenced with alarming severity and with extreme pain; each case terminated satisfactorily under free doses of opium, the acute painful stage not lasting many hours.

Last spring two men were admitted under my care on the same day, both patients had much the same symptoms, both were more or less collapsed by violent colic. I took the greatest care in my examinations. In the one case I thought the symptoms suggested perforation, but after a few hours typhlitis proved to be the cause of pain and illness. In the other patient, bed and ordinary simple remedies gave so much relief, that I scarcely entertained even a suspicion of the true nature, which proved to be a perforation of a duodenal ulcer.

Without doubt if perforation *has* caused the abdominal symptoms, every moment is of value, and any drugging most strongly contra-indicated; the sooner the patient is in the hands of the surgeon, the greater will be the chance of successful operative measures.

Sometimes, I think, the surgeon is apt to be hard upon the physician for not asking sooner for his help; but, gentlemen, our position is often a very difficult one. We all of us see and treat a vast number of acutely painful affections of the abdomen, we see them possibly relieved by drugs, and we often, naturally, hesitate before recommending that which the surgeon may say is devoid of but the slightest risk, but which to the patient and his friends is a proceeding fraught with the utmost alarm.

With regard to the special symptoms pointing to perforation, I have noticed in a certain proportion of cases that the primary pain has been almost limited to the hypogastrium. This was so much marked in the last case under my care that with a history of acute suppression of menses and extreme tenderness over the uterus, I concluded that the cause for pain was a local peritonitis, the fact being that the symptoms were caused alone by a perforating gastric ulcer.

REMARKS ON THE SURGICAL TREATMENT OF GASTRIC ULCER.

By W. BRUCE-CLARKE, M.B., F.R.C.S
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IT is hardly necessary to preface my remarks by stating that in these cases the diagnosis of the exact condition of things is the first essential to success. It is equally clear that an exact diagnosis is almost impossible of attainment. The symptoms presented by a well-marked gastric or duodenal ulcer are well known to everyone in this room, they are laid down in every text-book that deals with such a subject, and their treatment is a matter of daily occurrence by practitioners of medicine. These, however, are not the cases with which, it seems to me, we are dealing to-night, or rather which I, as the introducer of the surgical side of the discussion, ought to refer to at any length. The cases which fall into the hands of the surgeon are those which are complicated by

rupture, and many of them have given no indication of such a condition until the very moment that the rupture takes place. If there have been any premonitory symptoms, these have likely enough been attended by considerable pain, and when the rupture occurs the pain to which it gives rise is no more severe than the attacks of pain to which the patient has been subject for years past.

I will refer to the facts of some cases which have come under my notice, some under my own care, and will take this opportunity of thanking those who have allowed me to refer to their cases.

The first of these cases was that of a young woman, aged 22, which I saw in consultation with the late Dr. Arcedeckne Duncan. Previous to the attack in question she had been, so far as her friends knew, in perfect health. She was sitting at dinner about 1.30 p.m. in the day when she was suddenly seized with a violent attack of pain, which was referred to the pit of the stomach; she screamed with the agony, and was at once helped upstairs to bed, where Dr. Duncan saw her about an hour later; she was then beginning to pass into a state of collapse. About an hour and-a-half later I saw her with Dr. Duncan, and at that time she was scarcely able to recognise any one, and seemed almost in *articulo mortis*. By the aid, however, of injections of brandy by the rectum, and of ether and strychnine administered subcutaneously, she rallied somewhat, and an operation was decided on. An examination of the abdomen revealed little, but a slight increase of tenderness, and whilst the locality of the pain and its association with feeding seemed to point to its gastric origin, the operation was performed with a view to preliminary exploration and subsequent surgical treatment if such were possible. The abdomen was opened in the middle line above the umbilicus, and as soon as the peritoneal cavity was opened a considerable quantity of what appeared to be semi-digested food welled up from its interior. This was rapidly washed out, and the stomach pulled partially into view. On its anterior surface, not far from the pylorus, was an irregular ulcer about the size of a shilling, which was torn across, and presented a ragged and irregular opening. The edges were inverted and united with fine silk sutures, after which the peritoneum was again cleansed with hot water and the abdomen sewn up.

During the course of the operation the patient's pulse considerably improved, and about half-an-hour after getting back to bed she came round from the anæsthetic, and recognised those who were standing round her. When I saw her in the evening between 9 and 10 she had improved considerably, and the improvement was maintained the following morning, but as the day wore on she gradually became weaker, and died about thirty-six hours after the operation. Permission was obtained to open the wound so as to look at the stomach. The stitches appeared to have held well, and no further extravasation had taken place. The stomach and the intestines in the neighbourhood were red and injected.

Another somewhat similar case was operated on by me at the West London Hospital, and with an almost similar result, and I have come across one or two other cases operated on by other surgeons in which an almost exactly similar sequence of events took place. Such cases as these seem to me to belong to that variety which I may describe as partially successful, and I shall revert to them again as a class later on.

To quite another category belong those which I am about to describe, and though they are more chronic in their course, yet an exact diagnosis is, I am inclined to think, more difficult to arrive at. Such cases are usually brought under the surgeon's notice on account of the obstruction of the bowels to which they give rise, which is always accompanied by peritonitis as well, and it seems to me not at all improbable that whenever their true nature can be diagnosed at the time of operation, the chances of a radical cure are considerable. There is no better account of such cases existing than that which is given in the *Medical Society's Transactions*, vol. xv., p. 91, by my old friend and colleague, Mr. Lockwood, and I need make no apology for giving you an abstract of it on this occasion.

A young man, aged 28, was admitted into the Great Northern Hospital. He had been in the enjoyment of excellent health until four days before admission, when, whilst drinking a cup of tea, he was seized with a violent pain in the left side. At first this was thought to be an attack of colic, but the next day there was a well-marked tumour to the right of the umbilicus, and the patient became sick and

constipated. Towards the end of the second day the vomit became green, sour and stercoraceous.

When he came under Mr. Lockwood's care on the fourth day the abdomen was opened in the linea alba. This gave exit to a quantity of foul-smelling gas and to some pus. There was general purulent peritonitis, the pelvis being almost full of pus. The intestines were punctured to relieve the distension, and the punctures carefully sutured. The pus was washed out as far as possible, and the abdomen drained. The patient came round from the anæsthetic and was much relieved, but died some few hours later.

A second case, almost exactly similar to the first one in its general characters, is described in the same paper.

"With our present knowledge," says Mr. Lockwood, "it is, I fear, impossible to discriminate with certainty betwixt intestinal obstruction due to mechanical causes and that caused by diffuse septic peritonitis."

A very similar case has been related to me by Mr. Bowlby, and I am much indebted to him for permission to record it here. The patient was an elderly Polish Jew, who was admitted into St. Bartholemew's Hospital with symptoms of obstruction. He could not speak English, which considerably enhanced the difficulties of the case. His abdomen was opened, found to contain pus, washed out and drained. He died, and at the *post-mortem* examination a perforated gastric ulcer was discovered.

Now the points to which I am anxious to draw attention in connection with these ulcers, are, first of all, as to their pathology and diagnosis; secondly, as to the reasons which have so far prevented surgeons from attaining any great success in their treatment.

The pathology of ordinary gastric or duodenal ulcer is shrouded in mystery. Mr. Shield, following Virchow's lead, has suggested that the ulcers of the duodenum which follow burns are due to septic infarction of the blood vessels. Chronic albuminuria tuberculosis, and malignant disease have done duty as causes in the hands of other authors, but beyond the association of these ulcers with anæmia there is, so far as I am aware, no satisfactory cause known.

The diagnosis of ruptured gastric ulcer is always difficult. Considerable assistance may, in some instances, be derived

from the fact that the patient has already been under treatment for an ulcer. The onset of perforation is, however, even in these cases by no means easy to determine with certainty, as has already been pointed out by Dr. Hood. Such patients have often before been subject to colic, and the attack of pain which is the indication of a ruptured ulcer differs not in its onset from any other attack of colic.

This point is very clearly insisted on by Mr. Lockwood in his paper. It is only later, when the colic has given rise to collapse, that perhaps the true nature of the case is determined.

There is the further point which still remains to be considered: why does the rupture of an ulcer in some instances give rise at once—as in the case I first referred to—to symptoms of profound collapse, whilst in other cases the progress is much more chronic, and peritonitis and obstruction, with distension, are the cause of the patient's death? To a large extent I am sure it depends on the stage of digestion at which the ulcer ruptures, and in some instances is determined by the situation of the ulcer itself. Modern physiology has taught us that at certain stages of digestion, poisonous ptomaines are produced which are rapidly broken up and rendered non-poisonous, and it is possibly the presence of these products in the peritoneum and their speedy absorption to which the rapid onset of collapse must be ascribed, and this view, I am sure, is borne out by the rapid recession of the collapse when the abdomen is washed out. I think we are equally in the dark as to the causes which interfere with the final recovery of such patients just as we seem to have tided them over their crises. It is easy to ascribe it to sepsis, as is most commonly done, but the ordinary symptoms of sepsis are absent, and death takes place from collapse before anything we usually recognise as sepsis has time to develop.

At the same time it must, I think, be at once conceded that there are good reasons why the rupture of a gastric or duodenal ulcer should be more fatal and more prone to be followed by sepsis than a ruptured ulcer lower down the intestinal tract.

The gastric juice is acid, and acid solutions are more prone to irritate the peritoneum and render its attack by the septic organisms of the digestive tract more easy, and moreover these organisms flourish with far greater ease in an acid than

in an alkaline solution. Besides all this, the bacilli which are mostly found in the upper part of the small intestine are far more septic than those which occur at the lower part of the small intestine and colon. All these facts must be taken into account when we compare the results which have been obtained with operations on cases of peritonitis caused by ulcerated vermiform appendix, and those cases of peritonitis which are due to a ruptured ulcer higher up in the digestive tract.

The only hope in such cases is early diagnosis and early operation. If I might suggest what the points are which could best be elucidated in such a discussion as the present one, I would say, *What are the early and premonitory symptoms of the rupture of gastric ulcer*? There are many here to-night who have seen such cases, have watched them anxiously and carefully, and can give us much information, and to them I would say in the words of Shakespeare :—

> "If you can look into the sands of time
> And say which grain will grow, and which will not,
> Speak then to me who neither hope nor fear."

ON GASTRIC ULCER.

By Seymour Taylor, M.D., M.R.C.P.
Senior Assistant Physician to the West London Hospital.

Our improvements in methods of diagnosis, and of our scientific aids to research, both instrumental and chemical, have generated in modern medicine a tendency to differentiate symptoms with such a nicety, that there appears to be a danger lest we should elevate minutiæ to a prominence which they do not deserve; and, consequently, by focussing our attention with high mental objectives, we render ourselves liable to obtain only a limited purview of the field of disease.

In the following remarks which I have to make it is my desire, therefore, to bring before your consideration the possibility that the profession, with some notable exceptions,

has hitherto only been regarding the condition known as chlorosis, as a primary disorder rather than as a condition which is symptomatic of, and part of, a much broader clinical picture, of which gastric ulcer is the final touch.

Possibly the time may come, and I can see many indications of its advent, when the pendulum will begin to swing back again to the perpendicular; when many disorders which have hitherto been regarded as separate and distinct in their genesis, pathology and treatment, may be grouped together and consolidated, as it were, like so many Acts of Parliament; and that these groups of disease may have broader foundations than we imagine. We shall then begin to think that what we have been regarding as separate individual maladies may, in many instances, after all be but varying phases of morbific processes; just as plants vary from the parent type under the influences of certain soils, climates and surroundings.

It will be necessary, before proceeding further with my argument, that I should define chlorosis as a condition found almost entirely in young women, attended by pallor, constipation, a depraved appetite, leucorrhœa, and functional heart murmurs, without cardiac hypertrophy. Also that I should state that the form of gastric lesion which we are now considering should be defined as the small, solitary, "punched out" ulcer which, with few exceptions, is only found in young women.

Now in considering the condition known as chlorosis there are one or two points which must impress themselves even on the most casual observers. Besides the pallor, and the functional cardiac murmurs, there is a chain of symptoms such as dyspepsia, gastralgia, a craving for pickles, or sour, acid fruits, which point unmistakably to the stomach as the seat of a disorder, not necessarily a lesion of mucous surface, but a disorder which runs *pari passu* with, and not seldom precedes the blood disorder.

Turnbull, of Liverpool, as early as 1846, noted this coincidence and observed that the "gastralgia of chlorosis is often so great as to cause fear of food, since it supervenes directly after food, especially that which is of an animal nature; so that it is difficult to understand whether the chlorotic condition had its origin in the blood or in the digestive organs."

And he sums up his deductions by remarking "that seeing that chlorosis is associated with disorder of the stomach and hæmatemesis; and seeing that chlorosis and perforating ulcer of the stomach are common in females, and that both are accompanied by uterine disorder, these facts must lead us to suppose that there is some connection between the condition of the blood and the structural change in the stomach."

Now this is the gist of my argument, but I would amplify it, and say that chlorosis on the one hand, and gastric ulcer on the other, are manifestations of one and the same disease; that there is a clinical entity which rests on a broad basis; and that it may be represented by a pyramid, the earlier stages of which shall be marked "chlorosis," and the terminal summit "gastric ulcer."

And in order to prove the identity of two apparently widely diverse conditions, it is necessary to place them as regards their causation on one common foundation, and to me that foundation may be, and probably is, neurotic. Further, as my opportunities for pathological experiment are limited, it is necessary that the evidence which I shall offer shall be, for the most part, clinical.

Now, regarding the two conditions as merely stages of the same disease, one of the first points which strikes us is the ætiological factor of sex and age.

Taking my experience from a large out-patient practice at the West London Hospital, and supplementing this by notes of cases in my private work, I find that of eighty cases of chlorosis all were young women, and of fourteen cases of gastric ulcer all were also women.

But whilst the average age of the chlorotics was 19, that of those patients who had gastric ulcer was 31. In other words, I have not seen a case of chlorosis in a male, and, at least in my own practice, I have not seen a case of gastric ulcer in a male. Further, the average ages of the patients suffering from these two stages (in the chlorotic cases 19 and in the ulcer cases 31) point to the former being the forerunner of the latter, since in every case of ulcer there were present hæmic murmur or murmurs of more or less intensity and a history of previous, it may have been long previous, chlorosis.

Inman, in 1871, also pointed out that chlorosis and gastric ulcer had many symptoms in common, and although he quotes

a few cases of ulcer in males, he shows that with chlorosis the ulcerous lesion is practically a disease of women only.

But what are the evidences by which chlorosis and ulcer can be referred to a common neurotic cause? Sandras regarded chlorosis as a neurosis, and believed that the deficiency of hæmoglobin in the blood was an effect and not a cause, as it only occurs late in the disease. Eisenmann, again, urged that chlorosis was a primary nerve affection, and that the blood change was secondary to the neurosis.

Lebert says "that all pathologists admit a nervous element in the causation of chlorosis."

More recently, Gowers has drawn attention to the existence of optic neuritis in cases of chlorosis.

Finally, Budd has said that the clinical features of ulcer point to a prior state of anæmia as a predisposing factor.

Then turning to clinical evidence we find:—

(1) That emotion, grief, and passion, occurring at a period when young girls are most prone to be influenced by such psychological disturbances, are strong causal factors in chlorosis; and that neuralgia and other neurotic manifestations are common.

(2) The disease is attended by a deficiency of hæmoglobin in the corpuscles, and not so much by a lessening of the number of blood cells, a poverty of quality and not of quantity; a poverty therefore which may be neurotic in its origin. Silbermann, after injecting into the blood of some animals certain substances which causes hæmoglobinæmia, easily set up ulcer of the stomach by the slightest irritation of its mucous membrane.

(3) In all cases of chlorosis the predominant symptoms are in reference to the gastric function. Almost without exception the chlorotic girl begins her tale of distress by referring to flatulence, pain after food, acid craving; and in a large proportion of cases vomiting occurs or is even induced, by which her symptoms are relieved. Now all this chain of events is, to my mind, similar to that which distinguishes the early stages of locomotor ataxy. I contend that chlorosis has its gastric crises just as locomotor ataxy has; and if this be true, it is no difficulty to go a step further; and as we regard perforating ulcer of the foot as a neurotic dystrophy in tabes, so must we regard a similar lesion of the stomach.

On reviewing the question from the gastric ulcer point of view, I would wish to recall one or two of the more accepted theories as to its causation. Virchow sought to set the matter at rest by the theory of vascular embolism causing a local anæmia and a consequent circumscribed necrosis. With deference to so exalted an authority, I would say that I have not yet seen in any *post-mortem* examination an example in which even a remnant of an embolism has been discovered; and in view of the magnificent vascular supply to the stomach I fail to understand how such an obstruction can cause so typical a lesion in this organ, whilst a similar, or even a more gross vascular obliteration, such as may occur in the intestine, may be recovered from.

Again, did venous hyperæmia, such as occurs in portal obstruction and in chronic heart disease, act as an exciting cause, as some pathologists think, one would expect the lesions to be multiple, or at least, more extensive than in the solitary and small "bitten out" ulcer which we are considering.

Nor can I accept the theory that the ulcer is caused by a process of local digestion of the stomach due to diminished alkalinity of the blood. For if, as is now generally admitted, the blood cells of a chlorotic girl are deficient in hæmoglobin which, according to Silbermann, is itself feebly acid, one would expect the ulcers to be multiple, whereas they are solitary, and one would look to find them indiscriminately in different regions of the stomach, whereas the lesion is in the great majority of cases near the pylorus and at the periphery of the nerve plexuses of this locality.

But there is ample evidence in support of the view that the ulcer is a neurotic dystrophy. An ulcer, or ulcers, similar in shape and character may occur in the duodenum after burns and scalds; nay, the duodenum may itself be the seat of ulcer in chlorosis, instead of the stomach. No one can doubt, at least in the case of burns, that the nervous system is the connecting link between the cutaneous injury and the duodenal lesion.

Again, Dr. T. P. Cowen, in an able communication to the *Lancet*, draws attention to certain trophic intestinal lesions, though especially ulcerative colitis, occurring in the insane, when the ulcers are clean, punched out, and to all appearances neurotic dystrophies.

The shape of these ulcerous nerve lesions is therefore peculiar and characteristic. The perforating ulcer of the foot in tabes dorsalis is, as its name denotes, a clear and circumscribed lesion. The ulcers which extend along a nerve tract in herpes, bear, even if multiple, a close resemblance to the perforating ulcer, both of the foot and of the stomach.

Dr. Ord, in a paper read before the Medical Society of London in 1890, has drawn attention to the co-existence in some cases of gastric ulcer and peri and endocardial lesions, and the drift of his argument tends to the supposition that the vagus nerve is the channel by which irritation, which occasions these lesions, is conveyed. Now if these two apparently distinct conditions of gastric ulcer and endocardial inflammation, can co-exist in the same individual, it is not difficult to associate ulcer with a blood lesion like chlorosis.

I myself have seen herpes zoster occur in a young woman who suffered from gastric ulcer.

Having thus briefly reviewed the evidence by which we may refer the two conditions to one common basis, it will be necessary to bring forward clinical evidence to show how they are intimately associated.

Now almost without exception every modern writer has, perhaps unconsciously, associated the two diseases.

Gerhardt says ulcer is common in chlorotics.

Osler says gastric ulcer is associated in a special manner with anæmia and chlorosis.

Roberts says it may be accompanied by marked anæmia or chlorosis.

Fagge asserts that "In young women the symptoms of gastric ulcer are often simulated by anæmia."

Bristowe observes that ulcer is often associated with chlorosis.

M'Call Anderson, in reviewing a series of cases, gives figures which prove that 93 per cent had anæmia in some form or another.

Other writers have recorded cases of gastric ulcer which were found *post-mortem* in young women who have died from specific fevers or injuries, and in whom ulcer was never suspected, although there was a history of previous chlorosis.

Sutton expresses the opinion that in some cases the symp-

toms of gastric ulcer may be latent, but that chlorosis was a frequent prior condition.

In my own records I have invariably found that cases of gastric ulcer, in which all the symptoms were conclusive and in some of which the ulcer was demonstrated *post-mortem*, had an antecedent history of pallor, dyspnœa, constipation and all the concomitant symptoms which go to complete the clinical picture of chlorosis.

On the other hand, I have now notes of a series of cases (14) which I have had under care for chlorosis. They were apparently cured or relieved, or for some reason they ceased for a time to attend the hospital for treatment. After a lapse of time, varying from three months to a year, they all on their reappearance presented not only symptoms of chlorosis, but in addition the diagnostic symptoms (including hæmatemesis and melæna) of gastric ulcer, and required active treatment for this latter condition.

To me, therefore, it would appear that we must come to one of two conclusions, viz., either that there is a pre-ulcerative stage in the disease known as gastric ulcer, when all the symptoms of chlorosis are present; or, that cases of chlorosis which are allowed to become chronic, terminate in a climax which is gastric ulcer. Nor is the evidence in favour of my contention confined to the symptomatology and pathology of the two conditions.

We have confirmation in the results of our treatment. Let us take chlorosis first. I take it that no physician with large practice begins to treat chlorosis with iron preparations, right away. If he does, my experience tells me that his treatment will not be successful, even though the ferruginous medicine be continued for many weeks.

The first essential in the treatment of chlorosis is to attend to the assimilative organs. Sir Andrew Clark has said that many cases of chlorosis may be cured by Epsom salt, and he was a master whose opinion carried weight; and his statement was really an argument in favour of my views. If I may be allowed to shortly describe the line of treatment which I invariably adopt, where possible, I shall tell you that I put the patient to bed, I allow only the simplest diet of milk and farinaceous food, I order a simple laxative, or an enema, every day until the bowels are completely relieved,

and I then begin to cautiously administer iron or arsenic. By these means we afford physiological rest to the stomach and to the nervous system. The results are not infrequently surprising, and contrast favourably with the routine treatment of hospital practice, in which a patient may be given a certain preparation of iron; but she returns the next week when the medicine is changed, a subsequent alteration is made in the third week, until finally the pharmacopœial preparations of iron have been exhausted and proved to be failures. Nay, further, I have cured cases by a rigid dietary, and perfect rest in bed, with massage, and without the intervention of iron salts.

Does the treatment of ulcer demand much change from this? I think not. The time has apparently gone by when we resort to nitrate of silver and other irritants, to promote healing. The ulcer will heal, if at all, by rest and a rigidly spare dietary. The diet is the first important factor; after that, rest of the nervous system will complete the cure, always excepting in those cases in which by a prolonged illness the recuperative powers of the body are exhausted beyond recovery.

In conclusion let me summarise my contentions:—

(1) Chlorosis and gastric ulcer are but stages of one disease.

(2) That the disease has a neurotic origin, since both conditions occur for the most part in young women, at a period when the nervous system is most susceptible to disorder.

(3) They have many symptoms in common; that is to say in the chlorotic stage the gastric symptoms are as important and perhaps more so, as the blood change. Whilst even in the ulcerous stage there are cardiac murmurs and other signs of blood disorder; and there is almost invariably a history of an ante-chlorotic condition.

Report of Proceedings.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Friday, October 4, 1895.

A. SYMONS ECCLES, M.B., President, in the Chair.

The Minutes of the last meeting were read and confirmed.

THE DEATH OF M. PASTEUR.

Mr. KEETLEY: I beg to move a vote of condolence with Mme. Pasteur on the death of that distinguished *savant*, M. Pasteur, who was an honorary member of our Society. His loss is not only one which science, but which mankind will feel, and it has come most inopportunely in the midst of an active career. It is most sad to reflect that probably his life was shortened by the virulent and unjust attacks made upon him by ignorant persons after the announcement of his researches on rabies.

The resolution was seconded and carried unanimously.

A telegram was accordingly sent by the President to Mme. Pasteur on behalf of the members of the Society.

The PRESIDENT read his address on the "Advantages of Oxidation," which is published *in extenso* at the beginning of the JOURNAL.

Dr. T. LAUDER BRUNTON: I am sure that we owe our best thanks to our President for the admirable address which he has delivered to-night, in which there is much food for thought; and not only do we thank him for the address which he has just given us, but also for the good work he has done in reference to massage, some of which is embodied in his treatise on that subject recently published. We often find great benefit arising from theoretical as well as from practical sources, for it must be remembered that the brilliant researches on infective disease of Pasteur, whose recent decease we all mourn as so great a loss to science, arose out of an investigation of purely theoretical interest on the rotation of light by crystals of tartaric acid. The

suggestions that Dr. Eccles has made in reference to the behaviour of toxins when present in the system, and their influence on health and disease, may perhaps help to explain why we so often find drugs behaving differently and producing opposite results in the same individual at different times, and further investigation into the causes of this diversity of therapeutical action on the part of drugs may greatly help us in the use of remedies under the varying circumstances of diseased states. I have much pleasure in proposing a very hearty vote of thanks to the President for his interesting paper on the advantages of oxidation.

Dr. CAMPBELL POPE seconded the vote of thanks, which was received with acclamation.

The PRESIDENT: I beg to return you, Dr. Lauder Brunton and Dr. Campbell Pope, my best thanks for the kind manner with which you have proposed and seconded the vote of thanks to me for my address, and I beg to convey to the Society my great appreciation of the cordial way with which the resolution has been received. I have also to thank you for the kind attention with which you have listened to my address.

The meeting then terminated.

Friday, November 1, 1895.

A. SYMONS ECCLES, M.B., President, in the Chair.

THE ETIOLOGY AND TREATMENT OF GASTRIC ULCER.

The discussion upon the above subject was introduced by Dr. Donald Hood, Dr. Seymour Taylor, and Mr. Bruce Clarke, each of whose paper appears in full on the first pages of the JOURNAL.

The discussion was continued by Dr. ALDERSON, who read a paper on "Latent Gastric Ulcer," of which the following is an abstract. The author said he was hardly responsible for the title, and perhaps concealed or unrecognised perforated ulcer of the stomach would be a more correct and exact description of at least one of the two very interesting and beautifully prepared specimens of this important and too infrequently recognised disease that he had the privilege of showing at this important meeting of the West London Medico-Chirurgical Society. The specimen exhibited containing the single perforation, was kindly lent by Dr. Donald Hood, to whom he felt deeply indebted for the interesting clinical notes of the case, the symptoms of which were entirely latent. He thought gastric ulceration, when it was unaccompanied by

hæmorrhage and vomiting, was frequently overlooked. As a member of the Sanitary Committee of the Hammersmith Vestry, he had the opportunity—of which he regularly availed himself—of examining the weekly mortality returns, and he had remarked how seldom gastric ulcer, with or without perforation, is mentioned as a cause of death. He had, by the kind permission of the medical officer of health, examined the death certificates of 305 "registered deaths," the whole of the death returns for the last five years of the district containing 100,000 inhabitants, with the result of finding only eleven deaths from gastric ulcer, and in only five of these did perforation occur, and out of this number five were females. Perforation was given as the cause of death in two others, but were stated to be due to malignant disease, but as no *post-mortem* was made he thought it not unlikely that the perforation in each case was due to gastric ulcer. Another was registered of a man, aged 81, from senile gastric ulcer; this death was, in his opinion, possibly due to gastric ulceration.

Case 1.—S. H. T., aged 46, a merchant's clerk, death certified October 27, 1895, by Dr. Alderson, after *post-mortem*, as due to pleurisy left, diffusive gastric ulcer, perforation about 20 hours. He was a neurotic, taciturn, anxious, and rather phlegmatic man, had never had syphilis, and had always been temperate. Father, an artist of some repute, committed suicide; children all delicate and phthisical, one boy died from cavity of right lung, subsequent to acute pleuritis of right lung with effusion, aspirated, chest quickly refilled. A daughter has had tubercular glands removed from neck and wrist; another has lately had hæmoptysis. In 1876 the patient had two years of almost constant dyspepsia. In 1884 vomiting and dolor relieved and increased by food, appetite, no nausea. In 1888 he had an exceedingly severe attack of lumbago (?) for which he was kept in bed ten days, and suffered at times excruciating pain. In 1891 he had attacks of dyspepsia, and one of these he described as "three weeks of fermentation," but did not apply for medical advice.

Never suffers from cough or any expectoration. Fatal illness commenced quite suddenly on Monday evening, October 8, 1894, when, feeling quite well, he went to the City to see Blackburn play a chess tournament, during which he had to leave, and "almost died" in the railway carriage on his return home. He was half-carried into Dr. Alderson's consulting room; his condition was as follows:—

Countenance pinched and pallid, expressive of great suffering; patient described the pain as most acute, and radiating all over the abdomen, but most painful in right hypochondrium. Temperature and respiration normal, pulse 90.

Tongue fairly clean, abdomen not tender to touch, or on percussion. No vomiting or nausea. These symptoms were put down to colic, and a strong opiate administered to the patient by mouth, and afterwards hypodermically. Patient passed a night of "acute agony," but was relieved by morning, when he obtained disturbed snatches of sleep. Dr. Herbert Alderson examined him with the author very carefully, and could find no physical sign or symptom of organic disease; his lungs, heart, liver, and kidneys appeared healthy. In a few days pleurisy of left side developed. This was thought to have been due to cold that he caught by exposure on the cold foggy night of the 8th, when he attended the chess tournament.

The distinctive feature of his illness was intense pain, which he said never left him for a moment during this last illness, the situation of which varied, but was thought, and probably was, in great measure subsequently due to his attack of pleurisy.

On the 25th, after an aperient and copious action of the bowels, he appeared and said he was better, and leave was given to sit up for a short time, but this was found, on account of the pain, to be impossible. Dr. Alderson had now great hope of his recovery; his temperature was only 100°, his pulse varied but not alarmingly, and his respiration not at all difficult; he had an excellent night, the best since his illness, but that improvement only continued for a brief time, and on Friday evening he had a special message that the patient had had a day of acute suffering, and requesting him to see him at once. On arrival, he found him greatly altered, his face was almost blanched, his pulse small 120, respiration 30 but not difficult, but the whole character of his illness was changed, and his case evidently hopeless. There had been no sickness or nausea.

October 27.—Patient evidently dying; had had no sleep, was perfectly conscious and sensible of his danger, and longed and prayed for death to release him from his sufferings; he died at 3 p.m., about twenty hours from his symptoms of collapse, and when Dr. Alderson thought perforation occurred of the large ulcer.

Dr. Alderson considered this case interesting and valuable from the fact that during the time the patient was under his care and observation there was an entire absence of the usual symptoms of gastric ulcer, vomiting and hæmorrhage, and from his comparatively good health. During the year previous to his death he had had but little medicine or medical advice. The symptoms were masked and complicated by his developing pleurisy; this, which was ascribed to catarrh, was

probably due to a leakage from one of the ulcers, thus accounting for the empyema. The following are Dr. Alderson's notes of the *post-mortem* made the next morning about twenty hours after death by Mr. Bucknill, in the presence of Dr. Alderson and his son, Dr. Herbert Alderson. No *post-mortem* rigidity, no emaciation, but body fairly nourished. About a quart of purulent fluid was removed from left pleural cavity, the fluid first removed was thin and comparatively clear, but the last half-pint was more or less pus. The right lung collapsed as soon as removed. Traces of apparently miliary tubercle were noticed at apex.

The stomach was large and dilated and pigmented, and contained about one pint of liquid food (egg and milk). There was no escape of the contents of the stomach until it was tilted and examined out of the body, when a large perforated ulcer of stomach on its anterior wall and near the lesser curvature and at the cardiac end, and also a small punched ulcer near the pyloric end in its posterior surface, was afterwards discovered by Dr. Abraham, to whom the author is indebted for a minute and microscopical examination of the organs. The stomach was adherent to the surrounding tissues, and was removed with considerable difficulty.

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Heart healthy, and valves normal and competent; spleen and kidneys normal. There was a large abscess in the cellular tissue over and outside the right kidney full of thick green, stinking pus; this probably was the result of the gastric ulcer. There was *no fluid in peritoneum nor any evidence of peritonitis*. Liver fatty, not amyloid, nor lardaceous.

In conclusion, Dr. Alderson said Fagge, in his late editions of "Principles and Practice of Medicine," writes that gastric ulcer is not infrequently latent, it may sometimes be a question, indeed, whether the ulcer was absolutely unattended with symptoms, and looking backwards this is true of the case just mentioned. Gastric ulcers no doubt often heal without the symptoms being sufficiently serious to cause medical attention, although, as Fagge observes, few would endorse Cruveilhier's statement "that simple ulcer of the stomach leads essentially to a cure." Medical experience and the *post-mortem* room does not confirm this opinion. The frequency of ulcer of the stomach remaining latent is, I think, from the dictum taught and accepted, and mentioned by Brinton and Habershon, that the diagnosis of ulcer can be made in a very few instances "unless hæmorrhage be present;" and the occurrence is certainly true, that hæmorrhage (hæmatemesis) may, especially in females, occur and where there is no ulcer. This has been forcibly proved in a practical pamphlet by Dr. Donald Hood on "Hæmatemesis in Early Female Adult Life."

Dr. CAMPBELL POPE: In pathology light is often thrown upon a subject by a study of persons' and localities exempt from the disease under consideration. Sohlern, for example, has pointed out that in the Rhone Valley, the Bavarian Alps, and in the greater part of Russia gastric ulcer is rarely met with. The inhabitants are mainly vegetarians, and thus get about one-third more potash salts in their food. So far as the treatment of these cases is concerned, there is no doubt that the most essential point is absolute and physiological rest, as taught by Wilson, Fox and Fortu; then with respect to drugs, I prefer belladonna, opium or morphia, in combination with bismuth. In the after treatment I have obtained the most satisfactory results from the use of pills or drops of arsenic and iron, as prepared by Zambeletti of Milan.

The meeting was adjourned until Friday, November 15.

Special Meeting.—Friday, November 15, 1895.

A. SYMONS ECCLES, M.B., President, in the Chair.

The adjourned discussion was continued by Mr. Keetley.

Mr. KEETLEY: I have never had the opportunity of operating on a recent case of perforation of a gastric ulcer. I have, however, twice opened abscesses secondary to such perforation. One was in the left pleural cavity and was chronic. The other was peritoneal and acute. Both cases were very complicated and ended fatally. The first was published by Dr. Hood. The second was a boy who, a week before, was attacked with peritonitis. When the patient was first seen the abscess had perforated the diaphragm and had set up acute septic pneumonia with increasing coughing of most offensive pus out of the bronchi. Abdominal section was done, with thorough cleansing of the suppurating cavities and drainage. The patient was greatly relieved; but died eventually, apparently of suppuration in the lung.

Of course all such cases ought to be at least seen by the surgeon as early as possible. Delay is not due to their being mistaken for mere colic; but to peritonitis being still regarded as a complaint to be treated patiently, without attempts being promptly made to find out and remove its cause.

Mr. MCADAM ECCLES: There is one point in Dr. Seymour Taylor's most suggestive remarks at our last meeting which greatly struck me. He suggested a similitude between the perforating ulcer of the stomach and the perforating ulcer of the foot. First, they both have the same character of being sharply cut with a great tendency to eat their way deeply into the tissues, but never extend over any considerable area

like a creeping ulcer. Secondly, he hazarded a like origin for both, namely, that of a trophic nerve lesion.

I would like to add what appears to me to be yet another link in the chain of the argument, and that is the fact that the true perforating ulcer of the stomach is most commonly solitary. Now in like manner a perforating ulcer of the sole of the foot is but rarely dual or multiple. There is one important difference, however, between the two, and that is that the ulcer of the stomach is attended with pain, that of the foot causes but little.

It is, however, possible to have a typical perforating ulcer associated with a large creeping ulcer in the same patient, the smaller being most commonly near the lesser curvature and the pylorus, the other about the fundus of the organ. These may and probably have as widely different origin as they have position. On close examination of the preparation which Dr. Alderson showed on November 1, I am inclined to think his case may be one of this variety. Mr. Bruce Clarke drew attention to the very significant fact that when an ulcer has perforated and the contents of the stomach are precipitated into the general peritoneal cavity the shock is usually intense, but that the opening of the abdomen and flushing out its cavity is attended with the most beneficial results, and these almost immediately, though too often, alas, they are not permanent.

May I offer a suggestion as to the cause of this want of continued good effects? Mr. Keetley gave us an admirable *resumé* of several of the details of the operative procedures in these cases, and he mentioned the position and direction of the incision he would adopt, namely, always above the umbilicus, and either vertically between the recti or transversely through one or both recti. This I entirely concur with for the primary incision through which to find and deal with the perforation, but is it an efficient one for the subsequent cleansing of the fouled peritoneum? If we are to save our patient's life we have not only to suture with or without excision the perforated spot, but we have to rid entirely the peritoneal cavity of its irritating contents. This, I hold, is extremely difficult, if not quite impossible to do through a high incision alone. I have been confirmed in this view because I have had to perform *post-mortem* examinations on two cases where a perforated gastric ulcer had been securely closed by sutures, but where the peritoneum after death was found to contain in its lower parts, stomach contents imperfectly washed out.

I had occasion lately to operate on a case of suppurative peritonitis where, having suspected a gastric origin, I opened the abdomen above the umbilicus, and on discovering pus

determined that it was best to make another opening half-way between the umbilicus and the symphysis, and to wash through from the upper to the lower opening. During this process I inserted a glass drainage tube of large calibre intc the lower incision reaching well into the recto-vesical pouch, and through this the outflow was perfect I am inclined to think that it is well to always drain these cases through such a lower opening, say for the first twenty-four to thirty-six hours, closing the upper at the time of operating. My experience is, and Mr. Bruce Clarke's words amply support it, that a patient is relieved of shock by thorough peritoneal flushing rather than that the washing out increases it. Ether as the anæsthetic, combined with a complete cleansing of the peritoneum, has in many cases wonderfully restored the collapsed patient, at any rate temporarily, and will, I am sure in the future, lead to many a permanent cure. To operate early, and cleanse the peritoneum thoroughly, should be our first principles.

Dr. CLIPPINGDALE: So far as the causes of gastric ulcer are concerned, I do not agree with the observation of a previous speaker, that the ulcer can be caused by a chemical change in the gastric juice, for gastric juice has in most persons practically the same constituents, whereas gastric ulcer is comparatively rare. I cannot agree, either with the suggestion as to the neurotic origin of the disease, inasmuch as the greater number of patients suffering from it are persons of the lower class, who do not possess a very highly organised nervous system. In my opinion, constriction in women by corsets, and in men by belts, is a potent etiological factor in the causation of the disease, especially when associated with anæmia.

Mr. SWINFORD EDWARDS: I may relate the following case which was under my care at St. Mark's Hospital. A man of middle age was admitted with copious bleeding of a bright arterial colour from the rectum. An examination of the rectum revealed no lesion. Soon after admission another attack of hæmorrhage occurred, to which the patient succumbed. At the autopsy a perforating gastric ulcer was discovered, which had involved the right gastro-epiploic artery, no other lesion being present. The patient had had no vomiting or other gastric symptom. This case shows that in copious bleeding from the stomach the blood may pass unchanged through the whole gastro-intestinal canal. It also controverts the opinion that perforating ulcer is limited to females. I agree with the previous surgical speakers, viz., that as soon as perforation is diagnosed the sooner the surgeon's aid is sought the better. I had hoped that the dis-

cussion would have elicited some new facts regarding the symptoms by which the surgeon might be led to operate before perforation has taken place. With this in view I should like to inquire as to the value of gastric endoscopy or electric illumination of the stomach.

Mr. R. W. LLOYD: One of the *post-mortems* which I made on a case of perforating ulcer showed inflammation of the peritoneum of the lower part of the abdomen especially, and the pain had been chiefly referred to that region. For hæmatemesis I prescribe absolute rest in bed with rectal alimentation, and hazeline with opium and ergot. Later I order beef tea and Benger's food by the mouth, and subsequently pounded meat can be carefully added to the dietary, and Carlsbad salts given when required.

Dr. SNAPE: I should like to raise the question of the advisability of operating in severe cases of gastric ulcer before perforation has taken place. I have a case at the present time in which the hæmorrhage is so severe as to threaten life, and where ordinary remedies have failed for a long time to relieve. I should like to know if surgeons would feel justified in operating in such a case, as it seems a most serious matter to allow a patient with gastric ulcer to bleed to death without making some special effort to save life.

Mr. LAWRANCE: I believe we have in the albuminate of iron a valuable remedy as a hæmatinic in cases of chlorosis which do not readily respond to treatment by the inorganic compounds.

Dr. ALDERSON: With reference to the remarks of Dr. Clippingdale, I may mention that my patient, whose stomach is on the table, had for several months been a vegetarian, and with considerable improvement in his health. As to treatment, he was of course relieved by anodynes, and always felt better after aperients; and counter irritation by blisters and painting the epigastrium with liq. iodi proved useful. The pathological specimen is most interesting and unusual, as showing the *two kinds of ulcers* to which Dr. Seymour Taylor has particularly drawn attention; and I agree with him as to the totally different character of the small perforating ulcer to the large ragged *chronic* ulcer from which my patient suffered for so many years; the small ulcer is comparatively of very recent development. I think that probably the pigmentation referred to by Dr. Abraham, and which was not caused by any chemical action of food or medicines, as probable evidence of the malignant character of the ulcer; the history of the case and the microscopical specimens seem perhaps to prove this. An article in the *Medical Press and Circular* of October 2, points out the liability of chronic

ulcers of the stomach to take on malignant degeneration, as believed in by Dr. Doyen, who has published a learned treatise on this subject.

The cause of the disease in this case was certainly mental anxiety. The small perforating ulcer that occurs generally in young females is due to the altered state of the blood in chlorosis; constriction, moreover, as by tight lacing, tends to make matters worse, and is regarded as a cause of gastric ulcer by Dr. William Williams of Liverpool.

Mr. BIDWELL: Every surgeon takes the keenest interest in the operative treatment of gastric ulcer. In Mr. Bruce Clarke's opening address, the question of operation in cases of rupture had been discussed, but no reference was made to operation under circumstances other than rupture.

There are, however, two other conditions under which operation might be required; the first is the persistence of clear symptoms of gastric ulcer in spite of all treatment, and the second is the repeated occurrence of severe hæmorrhage; in such cases a laparotomy should be done with a view of excising the ulcer. Here, however, we are met by the difficulty in making an accurate diagnosis; thus quite recently a surgeon was asked to perform such an operation, but after opening the stomach no ulcer could be found.

At a later period, an operation may become necessary on account of the formation of adhesions, either within or outside the stomach, in consequence of the cicatrisation of a gastric ulcer; several cases have been successfully treated by Mr. Mayo Robson and by others. With regard to adhesions formed within the stomach, I may briefly refer to a case of my own. A man, aged 54 years, who had suffered from pain in the stomach for twenty years, was admitted into the West London Hospital on account of the great increase in the severity of his symptoms. As a movable tumour could be felt in the pyloric region the abdomen was opened; it was then found that the tumour was caused by thickening in the wall of the stomach close to the pylorus; as it was clear that this thickening was not malignant, the pylorus was dilated with the fingers, the wound in the stomach was closed, and the patient made an uninterrupted recovery. The contraction in this case was evidently due to an old gastric ulcer.

So far as the question of operation in perforated cases is concerned, without doubt it is extremely difficult to decide in which cases it is necessary to operate; the occurrence of severe abdominal pain, followed by collapse in a patient, giving a history of old stomach trouble, is a symptom of the greatest importance; if, in addition, there is diminution of the liver dulness, the diagnosis of perforation is fairly clear.

Too much importance cannot be attached to the presence of free air in the peritoneal cavity, since this may be the only sign of perforation, and of course exists long before any sign of peritonitis, and often gives rise to little shock. In two cases of perforation of ulcers of the small intestine on which I have operated, the presence of free air in the peritoneal cavity was the only sign of this serious condition.

I wil l not dwell on the details of the operation, since this has been dealt with by other speakers, but I wish to refer to a complication which has proved fatal after several apparently successful operations, and so is of great importance. I allude to the formation of an abscess beneath the diaphragm, usually between the spleen and stomach. It sometimes occurs as a localised peritonitis, at other times it arises in the sub-peritoneal tissue, although this is most likely to occur after rupture of an ulcer on the posterior surface of the stomach, it has also followed rupture of those on the anterior surface. It usually occurs in cases when adhesions have formed prior to rupture, it is not suitable for treatment by abdominal section, but the abscess may be reached by a transpleural incision after resection of the tenth rib in the left axillary line.

Finally, I feel very deeply the necessity for operating on all doubtful cases, provided that a surgeon can promise that his operation will not endanger the patient's life; I consider that every doubtful case ought to be explored, unless the physician can satisfy himself that the case is not one of rupture of a gastric ulcer. Under these conditions we must not be surprised if some cases are operated on without finding an ulcer, but still no harm will be done. Thus a few months ago a young woman was admitted into the Hospital in a state of collapse, with severe abdominal pain in the region of the stomach. She had been attending the out-patient department for gastric ulcer. Dr. Drewitt, under whose care she was admitted, could find no positive sign of perforation, but after consultation it was agreed that an operation ought to be done as a perforation might be present. I accordingly performed laparotomy, but could find no trace of any ulceration. Needless to say the operation did not retard the patient's recovery, which was perfect.

Dr. ABRAHAM: It is worthy of note that in Dr. Alderson's case there was much inflammatory neoplasm in the region of the ulcers, and also over a rough thickened area near which a well marked puckered cicatrix existed. Microscopically what struck me most was the extraordinary number of pigmented, irregular cells occurring in the stomach wall, and also in nodules in the lung, resembling the cells of a pigmented sarcoma.

Dr. PEARSON: With reference to the question of causation of gastric ulcer, I have met with a series of cases which appeared to me to be due to the repeated congestion and irritation resulting from attempts at vicarious menstruation in chlorotic girls. So frequently have I found, in cases of hæmatemesis and severe pain in the region of the stomach, this association with the menstrual period, that I am in the habit of at once inquiring into the possibility of this source of irritation. I have found the onset of severe gastric pain and sometimes hæmatemesis coincide frequently enough with scanty or suppressed menstruation, and this leads me to believe that we have here an explanation why gastric ulcer should be common in these chlorotic girls. An interesting case which has come under my observation showed at an early date small circular scooped-out ulcers of the lips, gums, and tongue, and these had recurred periodically for years, and at length metastasis to the stomach occurred, as shown by severe epigastric pain and vomiting. The symptoms later assumed so grave an aspect that the diagnosis of carcinoma was suggested. The underlying cause in this class of cases I believe to be neurotic.

The PRESIDENT: Before calling upon Mr. Bruce Clarke to reply, I regret that no speaker has been able more distinctly to define the indications for operation under the varying conditions which present themselves in practice. I would suggest that Dr. Pearson's case in which lesions of the mouth were found might possibly have been one of sprue.

Mr. BRUCE CLARKE: It is impossible in the space of a few minutes to attempt to sum up all that has been said; I only intended dealing with one or two points which bore on the surgical aspect of the question. I have already alluded in my opening remarks to the causation of gastric ulcer by clots, the result of infarcts, but several speakers have said that they could not understand the connection between a clot and an ulcer. What happens is this: under natural conditions the permeation of the stomach tissues by alkaline blood keeps these tissues so far neutral that the gastric juice cannot act on them. It is well known, however, that if death occurs during or shortly after a full meal, the stomach walls are acted on by the gastric juice and destroyed; and a similar condition, only on a much smaller scale, occurs when a clot is deposited in any part of the stomach walls. Its alkalinity is soon exhausted, and as soon as this is the case the gastric juice is free to act on the tissue or tissues where no active circulation is taking place, and the result is an ulcer. If we pursued the inquiry a stage further, and demanded to know the cause of the clot, the answer is not so easy, but given the presence of a clot the transition to ulcer is easy enough.

I have been asked also why I had not alluded to operations for gastric ulcer before perforation has taken place. I can only say that I have had no experience of such cases, and if it is difficult, if not impossible, to know beforehand when an ulcer is about to rupture, I cannot see what the indication is for such an operation. I can readily conceive that there might be such persistent vomiting as to warrant an attempt at its relief by operation, or severe hæmorrhage threatening life, which has been alluded to by another speaker. Such cases when they arise must be treated, and ought to be treated surgically, when medical measures have been tried and failed.

CLINICAL EVENING.

A. Symons Eccles, M.B., President, in the Chair.

Friday, December 6th, 1895.

Cases.

Myxœdema.

Dr. Seymour Taylor: I have here two cases of myxœdema. The first patient, aged 30, presents all the classical signs of myxœdema. But the thyroid body is enlarged; and this suggests the possibility that certain enlargements of this organ may be actually dystrophic. In parallel cases such as of Addison's disease, any disorganisation of the adrenals will probably produce pigmentation of the skin; and possibly therefore any actual disorganisation of function of the thyroid will produce myxœdema. The second patient also presents the usual symptoms referable to the skin and its appendages —she has also slowness of gait and of movement; but the usual circumscribed blush on the cheeks is absent. She is remarkably pallid. I should like to add that I protest against the use of the term myxœdema, as entirely inaccurate and misleading; Gull's disease, or Ord's disease would be much more appropriate.

Dr. Dobson: Is there in the pallid patient any albuminuria? I am led to ask this because in one of my own cases this symptom was present; but it disappeared under the thyroid treatment.

Dr. Seymour Taylor: There is no albuminuria, nor is any evidence of the cardio-vascular changes associated with Bright's disease.

Symmetrical Drooping of the Pinnæ.

The third case which I now show is one of (?) maternal impression, a male, aged 30, with symmetrical drooping of the pinnæ (lop-eared); the mother attributes the condition to a fright which she sustained when she was four months pregnant, a rat having been thrown at her.

Sclerosis of the Superior Maxilla.

Mr. BIDWELL: This patient, aged 52, has suffered from some nasal discharge for sixteen years, and for the last eight or nine years there has been some swelling of the left upper alveolus. Four years ago she had a tooth extracted and the "cyst in the jaw" discharged for some time after this, the swelling becoming less.

During four months before coming under treatment the alveolus had been getting rapidly larger, and the patient had severe aching pain in the jaw. She came under my care on August 12, 1895. There was then considerable enlargement of the alveolar process; it was of dense hardness, and the swelling was confined to the alveolus. It was not tender to the touch. It was nearly twice the size which it is now; and in the centre of the alveolus was a solitary tooth. There was also an exostosis in the left ear; there were no signs of acromegaly. There were some scars on the legs, but these were not pigmented, and there was no history of syphilis. However, iodide of potassium was tried at first, without causing any improvement, but on September 2, the solitary tooth was extracted and from that time the alveolus has gradually decreased in size, but there is still considerable thickening of the bone. She now has no pain, and says that she feels better than she has done for years.

I consider that the case is one of sclerosis of the alveolus, caused by the chronic irritation of the old molar tooth, as the tooth had an abscess in connection with one of its fangs. There has been no discharge of pus since the extraction, so the question of empyema of the antrum can be dismissed.

At first I was inclined to regard the growth as an osteoma, but its decrease in size lately takes it out of the group of true tumours.

Multiple Exostoses.

Mr. W. MCADAM ECCLES: This girl, aged 13, is suffering from multiple exostoses. No history in the family as far as ascertained of any like trouble. Some history of rheumatism on the mother's side, namely, the patient's maternal grandmother and a maternal uncle. The patient herself has had (?) rheumatism. No history of syphilis.

Position of Exostoses: Upper end of both humeri, 2; lower end of both ulnæ, 2; lower end of right radius, 1; most of the ribs on the left side, 6; lower end of right femur, 1; upper end of right tibia, 1; lower end of left femur, 1; upper end of right tibia, 1; dorsum of left scapula, 1; lower end of both tibiæ, 4; lower end of both fibulæ, 3; at least 23.

Dr. SHUTTLEWORTH: I may mention that I had formerly under my care at the Royal Albert Asylum, Lancaster, an imbecile lad presenting very similar appearances to those in the case exhibited by Mr. Eccles. At the age of 13 there were as many as *sixty* distinct exostoses to be made out, and a list of them was published in the *British Medical Journal* of December 17, 1881, and I may now pass round several photographs showing the deformities. In this case there was also a family history of rheumatism and rheumatic arthritis, and a suspicion (not well ascertained) of inherited syphilis. The boy was an imbecile of fairly good type, and the relation of the osseous hyperplasia to the mental deficiency was interesting. It might be conjectured with some degree of probability that the internal capacity of the skull had been diminished by concentric cranial hypertrophy. The girl just shown is 13 years of age, and in the second standard at school, so that it may be inferred that she is at least somewhat backward.

Mr. MCADAM ECCLES: I regret that the mental condition of the patient has not been inquired into, though I am aware that Mr. Barwell has shown a case in which there was deficiency of intellect.

Compound Fracture of the Humerus.

Mr. MCADAM ECCLES: I have been asked by Mr. S. Paget to show this case for him.

On October 30, 1895, the patient, who is 53, fell off a scaffolding 50 feet high, and struck or fell upon his elbow. On admission to the hospital there was a large wound just above the elbow joint behind—some 5 in. long—from this was protruding the broken shaft of the humerus, with the elbow-joint freely exposed—the lower fragment being comminuted—the olecranon and head of the radius escaped injury altogether. The whole of the muscles attached to the lower third of the humerus were stripped off it.

Operation.—(Mr. Stephen Paget.) The patient was put under ether and the shaft of the humerus sawn through about 3 inches from the lower end: the comminuted portions of the lower fragment were picked out of the wound, the wound syringed with hyd. perchlor. (1 in 2,000), iodoform dusted in, a large drainage tube inserted, wound stitched up with silk-worm gut sutures, and dressed with double cyanide gauze.

The nerves and vessels all round the injury seemed to have escaped in a most remarkable manner. In forty-eight hours, the wound was dressed, and the drainage tube, which was plugged with blood clot, was changed for a smaller one, which could only be inserted for a short distance, owing to the bulging of muscles into the wound.

7th day.—Tube removed altogether, wound nearly healed.

12th day.—Patient got up.

15th day.—The arm was put in plaster of Paris splint.

16th day.—Discharged.

Mr. BIDWELL: I believe that there are many cases of compound fracture of the elbow-joint in which resection is unnecessary, and in such a case a stronger and more useful joint results after wiring the fragments. I had not the opportunity of seeing this case before operation, but in a recent case of my own in which the joint was simply washed out, a very good result was obtained.

Mr. ECCLES: In this case there was so much comminution that resection was necessary.

"Milk spot" on the Heart.

Mr. T. G. PARDOE: I have been asked by Dr. Garrod to show this case, which he considers to be one of "milk spot" on the heart.

Mrs. E. F., aged 45, married, three children; came to Dr. Garrod's out-patients, complaining of some shortness of breath and pain in chest. Anæmic, delicate-looking woman. No rise of temperature.

During the usual routine examination of chest, &c., an exceedingly loud rub or murmur was discovered, most intense to left of sternum between third and fourth ribs. Also heard, but faintly, at base and apex. Not conducted to angle of scapula. Systolic in period. Harsh in character. Not varying with respiration. Superficial area of cardiac dulness not increased. No history of rheumatism, scarlet fever or syphilis.

Patient has been under observation for about two months. With an alkaline tonic all the pain, shortness of breath, &c., disappeared. The murmur remains the same to-day. The patient can walk fast and run upstairs without distress, and does all the heavy work about her house.

Dr. ALDERSON: I should like to ask whether this patient has ever suffered from scarlet fever.

The PRESIDENT: I should be glad to hear more of the history of the case, and to know how far the area of cardiac dulness is increased.

Mr. PARDOE: There is no history of traumatism or of

scarlet fever or rheumatism, and the cardiac dulness is only slightly increased.

Congenital Right Inguinal Hernia with undescended Testis.

Mr. KEETLEY: The case of this boy, aged 12, illustrates a mode of operating described by me in the *Medical Society's Transactions*, April 16, 1894 (see vol. xvii., p. 349).

The tunica vaginalis testis and the vas deferens, &c., are separated from each other and from their connections with the inguinal canal at the internal ring, the obliquus externus aponeurosis being first incised. The hernia having been dealt with, the testis is freed from all obstructing adhesions and brought down to the bottom of the scrotum. Then incisions are made in the scrotum and in the skin of the thigh, and the fibrous tissue connected with the upper end of the epididymis is sutured to the deep fascia of the thigh. Lastly, a few silkworm gut sutures unite the edge of the thigh wound to the edge of the scrotal one.

The testis and thigh are left attached for several months, and no inconvenience is felt.

Ulcer on the Side of the Nose.

Mr. MCADAM ECCLES: This patient, whose age is 90 years and 6 months, was sent to me at the hospital by Dr. Alderson, under whose care she had previously been. He first noticed a little pimple on the right side of the nose at least six months ago (June, 1895). This increased in size gradually, and about one month ago, while washing the face, he noticed blood coming from the growth. Since then, in spite of treatment, it has remained an open sore. The edges are raised, everted, and somewhat indurated; the base is tubercular. There is a thin, sanious discharge. No tendency to cicatrise. No enlarged glands have been found.

Diagnosis lies between: (1) Rodent ulcer, (2) epithelioma, (3) sebaceous adenoma, (4) "chronic perforating ulcer of the aged."

Treatment advised.—Free removal and skin grafting over the area.

Mr. KEETLEY: There is now in the hospital an old man from whose nose has been excised a sore, which was either rodent ulcer or epithelioma, probably the latter. It is of interest to note, however, that five years previously he had had an epithelioma of the penis. It is rare for distinct epitheliomatous growths to occur in the same individual. Dr. Alderson's and Mr. Eccles' case, began, as a wart; it was treated with caustics, which fact a little obscures the diagnosis, as irritation by caustics sometimes gives a false

appearance of malignancy. I am inclined to think this a case of rodent cancer.

Mr. BIDWELL: I think the balance of evidence is in favour of epithelioma, the history being too short for rodent ulcer. I do not consider that ethyl chloride is a good local anæsthetic; I speak from personal experience, so I would advise the use of cocaine as a local anæsthetic.

Dr. POTTER: I believe that rodent ulcer is commonly an early stage of epithelioma, and hence I always advise excision.

The Mirror of Practice.

A CASE OF EXTENSIVE CARCINOMA OF THE BREAST INVOLVING THE SUPRA-CLAVICULAR GLANDS.

By LEONARD A. BIDWELL, F.R.C.S.

THE following case of very advanced cancer of the breast shows the temporary success of a radical operation; as only two months have elapsed since the operation, no opinion can be offered as to the prospects of a permanent cure:—

Miss B., aged 43 years, came under my care on November 2, suffering from a large tumour in the left breast, which she had noticed for about nine months. Her sister had died from the same disease a short time before. When first seen, she had a large tumour at the lower part of the breast, and another nodule on the inner margin; a third distinct nodule could be felt in the substance of the pectoralis major muscle. The skin was adherent to the first two tumours, and one tumour was adherent to the muscle. A large mass of glands could be felt in the axilla, and two or three glands above the clavicle were also enlarged. I represented to the patient that nothing short of a very serious operation could give her any hope of relief, she, however, desired that it should be done.

Ether was administered, and the whole of the skin over the breast was marked out by a diamond-shaped incision in order to give the outlying nodule a wide berth. The small flaps were dissected back, and the pectoralis major was divided close to its origin from the ribs; the muscle was then divided near its insertion to the humerus, leaving the breast and muscle attached only to the axillary glands. The incision was then continued above the clavicle for about three inches, and the bone divided with a saw. After division of the pectoralis minor, the whole of the axillary contents (still connected with

the breast), together with the enlarged supra-clavicular glands were dissected away in one piece. The axillary vein was not injured.

The divided clavicle was then united with wire, and the pectoralis minor muscle with silk sutures; the skin flaps were brought together, as far as possible, but, owing to the amount of skin removed, a portion of the wound was left uncovered. The wound was dressed in the usual way, and as there was no rise of temperature, the dressings were not disturbed till the ninth day, when a Thiersch's skin graft was applied to the granulating surface. The wound then rapidly healed; but the wire uniting the clavicle gave rise to some irritation, and as the bone was united it was withdrawn a month after the operation. The patient returned home, much improved in general health, within six weeks of the first operation.

This case is one which, according to the old rules for operations on the breast, would have been considered unsuitable for surgical interference. The patient has, however, made a complete temporary recovery, and will not probably suffer from any local recurrence.

Of course, the arm is weakened after removal of the whole of the pectoralis major muscle, but patients are able to perform most of the movement of the shoulder after such an operation.

It will be noted that all the parts affected with cancer were removed in one piece, so as to avoid the danger of leaving behind any infected lymphatic vessels. The importance of the procedure is very great.

A CASE OF ECTOPIC GESTATION.

By W. McAdam Eccles, M.S. (Lond.) F.R.C.S., Assistant-Surgeon to the West London Hospital, and to the City of London Truss Society, &c.

The following report of a case of abdominal surgery will be perused with interest by our readers:—

Case of Ectopic Gestation: Rupture: Laparotomy: Recovery.—F. P., aged 33, a married woman, was sent to me at the West London Hospital by Dr. P. E. Turner, with a history of attacks of abdominal pain. At my request my colleague, Dr. Mansell-Moullin, kindly saw her with me. She gave the following history, for the notes of which I am in great measure indebted to our late house-physician, Dr. Wilks, and to our late house-surgeon, Dr. Ernest Lewis.

For six weeks before admission she had had attacks of pain somewhat like labour pains in the lower part of the abdomen,

chiefly on the left side, and sometimes accompanied by a bearing down sensation.

Catamenia: She was quite regular up till seven weeks ago, but the flow had always been scanty, and with much pain on the first day of the period, which usually lasted for four days.

The last period occurred normally as to time seven weeks ago, but she has continued to lose a little each day ever since; has not passed any clots or membrane. About a year ago she went six or seven weeks without seeing anything, but did not have any pain then.

She has had four children, all born at time, and the last is now 6½ years old. The labours were all natural. She has always had pretty fair health, except for inflammation of the lungs, four years ago. No history of any pelvic inflammation.

She was pale, and looked ill. The lower eyelids were rather puffy. She did not think herself pregnant. The mammæ showed no signs of activity. The abdomen was flaccid, but there was an indefinite sense of fulness in the hypogastrium, with some pain on deep palpation.

P. V. The uterus was movable, and not evidently enlarged, nothing abnormal could be detected through the fornices, or bimanually.

Owing to the indefinite history and symptoms, it was decided to keep her in bed and closely watch her, owing to the suspicion of their being an extra-uterine gestation. She continued fairly comfortable for seven days, when more pain occurred in the left iliac region, and a more distinct fulness could be made out with much resistance.

That night she had pain in the abdomen all night, and at 8 a.m. the next morning she became suddenly worse with faintness and pallor of lips. Pulse 120. T. rising. No vomiting.

Abdomen had impaired resonance over the hypogastrium, and some fulness felt *per vaginam*.

She continued in much the same condition until the next day, when the abdomen was less resonant at the lower part and distinctly fuller. At 10.30 a.m., as it seemed that slow bleeding was evidently continuing, I decided to explore the abdomen with the help of Dr. Moullin.

On the peritoneal cavity being reached a quantity of blood escaped, and afterwards many clots. A mass was found in the left half of the pelvis, which on being brought up into the wound was found to be a ruptured tubal pregnancy close to the fimbriated extremity. There were some adhesions to appendice epiploicæ which were ligatured and divided. The broad ligament was transfixed and tied with silk, and the mass cut away. The right ovary and tube were surrounded by some adhesions which were separated,

and the appendages removed. The uterus was slightly enlarged but appeared healthy. The abdominal cavity was thoroughly flushed out with hot water until all the blood clot was removed. No drainage tube was inserted, and the wound closed with silk woven gut sutures. The patient was somewhat collapsed after the operation, which lasted in all forty minutes, but rallied well on being put to bed. On examination of the structures removed there was marked evidence of embryonic structures, with a good deal of old and recent blood clot, but no fœtus was discovered. The patient made a good recovery, and left the Hospital wearing an abdominal belt.

This case is one of interest chiefly from its history. A middle-aged woman who has borne four children remains unimpregnated for six and half years, and then irregularity, or rather a prolonged period, of menstruation occurs. Most probably she became pregnant in her left Fallopian tube soon after the period of menstruation, which preceded the one which commenced seven weeks before her admission.

This latter loss was in all likelihood prolonged owing to the irritation produced by the developing ovum in the tube.

Her attacks of pain were due to small hæmorrhages and the distention of the tube, for the old blood clot, especially that between the layers of the broad ligament at its upper part pointing clearly to this cause.

There seems to have been a more severe rupture on the morning seven days after admission, and probably some nine weeks after impregnation, while lying quietly in bed, which led to some intra-peritoneal hæmorrhage, though not very large in amount. Bleeding, however, seems to have continued, and probably would have become much more serious had the case been left to Nature. It is certainly a question whether it would not have been quite justifiable, in fact, better for the patient, if an exploratory operation had been undertaken directly on her admission.

It is to be noted, in conclusion, that there was no casting off of a decidual membrane from the uterus, as is so typical in these cases of Ectopic Gestation; there were no mammary signs, and the uterus and annexa did not give sufficient indications to lead to an undoubted diagnosis.

The case was not one of those very rapidly fatal ones from extremely severe hæmmorhage, and it is gratifying to have to record that she was restored to complete health, having been seen some months subsequent to the operation.

[Owing to extreme pressure on our space, we have been compelled to hold over the reports of several interesting cases.—Ed.]

Reviews and Notices of Books.

TUCKER ON LUNACY IN MANY LANDS.*

SUPERINTENDENTS of lunatic asylums, and all who are practically engaged in the care of the insane, will find in Mr. Tucker's work a valuable contribution to the literature of the speciality to which they have devoted themselves. This work is probably unique, being not merely a compilation, but the results of a personal inspection of the principal asylums, public and private, in the world.

The labour entailed by such an investigation becomes apparent when it is stated that more than 18,000 miles were traversed, 400 institutions visited in all quarters of the globe, and more than 100 minor establishments communicated with. The mass of information thus gathered, has, the author tells us, been much condensed, but it is open to question whether the process of condensation might not with advantage have been still further carried out.

The volume is divided into sections dealing with all the civilised countries of the world, each section commencing with a brief retrospect of the history of insanity, and the measures adopted for the care of the insane from the earliest periods, when such measures were recognised as obligations devolving upon the community; followed by a criticism of the methods at present in vogue. The remainder of each section is devoted to an exhaustive description of every institution of importance in the country with which it deals, together with the opinions on various points submitted to the superintendents of these establishments for their consideration. Much space however, is, we think, unnecessarily occupied by descriptions of asylums practically identical with each other in constitution and management, where a note to the effect that such was the case would have sufficed. The

* "Lunacy in Many Lands," by G. A. Tucker. Sydney: Charles Potter.

space occupied in this manner would have been better utilised by a summary at the end of each section.

The conclusions which Mr. Tucker has deduced from his observations are sufficiently striking. He finds, and proves his assertion by statistics, that there is a large increase of insanity in late years, not only in special regions, but throughout the world; and in view of this fact he deplores the divergence of opinion which exists among workers on the subject, as to the causes of insanity, its prevention and treatment. Surely if there were not a difference of opinion there would be very little advance in the treatment of mental disease, or we should be driven to the conclusion that the goal of endeavour had been reached. The tendency of these institutions to grow larger and larger is condemned, and the author finds that the results obtained in smaller establishments are uniformly better, and the cost per head less—a matter for serious consideration in these days of enormous asylums. Other points touched upon are the harmfulness of mechanical restraint, the necessity for increased research on the part of medical officers, and the appointment of female medical officers for the care of female lunatics.

Mr. Tucker has succeeded in at least the main object for which his work was undertaken. He has produced a reference volume which may be studied with profit, not only by those who devote themselves exclusively to insanity, but also by those who are responsible for the management of large public institutions generally, such as general hospitals, infirmaries, and the like.

MARSH ON DISEASES OF JOINTS.*

THE subject of the diseases of joints has always been a difficult one, and the appearance of Mr. Howard Marsh's treatise nine years ago did much to lighten the obscurity with which it was surrounded. In the preface to the new and revised edition, recently published, the author says that he has endeavoured to introduce the new material which has been added to our knowledge of joint affection since 1886.

Readers of the present volume will find this statement amply fulfilled, and in addition Mr. Marsh has written a second part of sixty pages on "Diseases of the Spine," still

* "Diseases of the Joints and Spine," by Howard Marsh, F.R.C.S. New and revised edition. London: Cassell & Co., 1895, pp. 532.

further enhancing the value of the book. We are glad to see that in chapter viii. he has dropped the term "scrofulous" and substituted "tuberculous."

A new chapter on "Arthrectomy, or Erasion of Joints" has been added. The author gives it as his opinion that it is at present too soon to offer any exact estimate of the value of arthrectomy. In the elbow and ankle, he avers, it gives good results, but in the hip and knee its success is doubtful. Mr. Marsh is one of the chief exponents of "conservative surgery" with regard to tuberculous affections of joints, and he states his conclusion with regard to the value of erasion, as compared with excision, in the following terms: "No matter what the operation is termed, or whether the whole joints, including the articular ends, is removed, as in excision; or whether, while the constituents are sacrificed the articular ends are left, as in arthrectomy, the proceeding falls far below the level of conservative surgery, as it is practised in all other departments, except in the case of malignant disease." He goes on to say: "A child who has had his hip or his knee excised or erased—no matter how safely or rapidly the wound may have healed—has lost one of the chief of his organs of locomotion. Such expedients, sound as they may be as successive stages in the evolution of surgery, are certain, having had their day, to give way, as amputation has, to measures of a still more conservative kind."

In his opening remarks on "Syphilitic Diseases of Joints" Mr. Marsh still adheres to his old statement that he believes that not a few instances of joint disease which resist treatment by the usual methods of rest, blistering, &c., and which show an obstinate tendency to relapse, are of a syphilitic nature. A good account is given in this chapter of the more recent study of these joint affections which are now causing so much interest.

Arthritis as a sequela of influenza, hydatid cysts involving joints, and trophic changes of joints in subjects of syringomyelia, are other points of interest dealt with in this new edition.

Many new well-chosen illustrations have been introduced, and the whole book will continue, without doubt, to be of the greatest use to practitioners and students, and is certainly one of the best of that excellent series of clinical manuals published by Messrs. Cassell & Company.

THE LIBRARY OF THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

BOOKS RECENTLY RECEIVED.

Presented by Dr. FRANCIS O. BUCKLAND.

Illustrated Medical News, 6 vols, 1888-89.

Presented by Mr. P. MACLEOD YEARSLEY.

Mentally Deficient Children, by Shuttleworth.
Leeward Islands' Medical Journal, 2 vols.
George James Guthrie. Pamphlet.
Medical Annual, 1892.
Transactions of Royal Academy of Medicine in Ireland, vols. x. and xi.
Five numbers of the International Medical Magazine.
Four numbers of the American Medico-Chirurgical Magazine.
Six numbers of the Medical Magazine.
One number of the Brooklyn Medical Journal.
One number of the Birmingham Medical Review.
The Theory and Practice of Counter-Irritation," by H. Cameron Gillies. Macmillan & Co., 1895.

Presented by THE ROYAL COLLEGE OF SURGEONS.

Calendar of the Royal College of Surgeons, 1895. (In exchange.)

Presented by THE MEDICAL SOCIETY.

The Medical Society's Transactions, 1895. (In exchange.)

Presented by THE PROPRIETOR.

The Clinical Journal is presented weekly by the proprietor.

Presented by Dr. HUBBARD.

An Adaptation of the Circular Method of Amputating to Disarticulation at the Hip and Knee, by A. G. Miller. Oliver and Boyd, 1895.
Observations on Congenital Dislocation of the Hip, by B. E. Brodhurst, first and second edition. J. & A. Churchill, 1895.

Presented by Mr. KEETLEY.

The Birmingham Medical Review, vols. xvii. to xxii. (1885 to 1887), six bound in three.

Presented by THE AUTHOR.

Placental Polypus, by Alban Doran (from vol. xxxvii. of the Transactions of the Obstetrical Society, 1895.
Lunacy in Many Lands, by G. A. Tucker.

Presented by THE ACADEMY OF MEDICINE, PHILADELPHIA.

Transactions, 1892-3-4.

Presented by THE AUTHOR.

Diseases of the Joints and Spine (new edition), by Howard Marsh.

Presented by Mr. PERCY DUNN.

The Pharmacopœia of the London Hospitals, by Squire.
Four numbers of the Therapeutic Gazette, 1895.
Science Progress, November, 1895.
Five numbers of the Canadian Practitioner.
Six numbers of the Medical Chronicle, 1895.
Four numbers of the American Journal of the Medical Sciences, 1895.
The Quarterly Medical Journal, October, 1895.
Eight numbers of the American Practitioner and News, 1895.
Three numbers of the St. Louis Medical and Surgical Journal, 1895.
Five numbers of the Dominion Medical Monthly, 1895.

The librarian has not received quite sufficient adhesion to the scheme for a "Book-Club" to justify him in approaching Messrs. Lewis on the subject, and would be glad to hear from other gentlemen. He attends the hospital on Tuesday, Wednesday and Friday afternoons, when the books of the library may be seen.

POST-GRADUATE TUITION IN LONDON.

By C. B. KEETLEY.

IT is proposed to give in each number of this JOURNAL a full notice of the arrangements for post-graduate study in London, up to date. Strict impartiality will be aimed at, and it is hoped that the secretaries and deans of hospitals and schools will supply us with the necessary information. The father of London post-graduate tuition is Dr. Fletcher Little. His enthusiasm and perseverance have organised what is known as the *London Post-Graduate Course.* Directed by a committee (President, Mr. Jonathan Hutchinson), it combines six hospitals, viz., the Children's, Great Ormond Street; the National in Queen Square; the Ophthalmic in Moorfields; the Skin, Blackfriars; Bethlem; and the London Throat, Great Portland Street; with King's College Bacteriological Laboratory; the Parkes Museum of Hygiene, and the Cleveland Street Infirmary; while pathological lectures are given at the Great Northern Hospital. The next courses will be a "vacation course" in January, and the "spring term" in February and March. Courses can be taken out separately, and the fees are £1 1s. or £2 2s. at each institution, according to the number of lectures, &c. This does not include hospital practice, for which are charged fees extra, but moderate. The prospectus for 1896 will shortly be ready and may be obtained of Dr. Little, 32, Harley Street, W.

Charing Cross Hospital.—Weekly lectures or demonstrations are given, arranged in three courses of ten each. Fee £1 1s. each course. Thursdays at 4 p.m. Beds, 180; in-patients "about 2,000." Hon. Secretary, Dr. Willcocks.

West London Hospital.—Weekly demonstrations, arranged in three courses of ten lectures each. Wednesdays at 5 p.m. Fee £1 1s. each course. Fees for hospital practice, £2 2s. per quarter extra, or £5 5s. for year, including all lectures and demonstrations. Instruction in anæsthetics by the anæsthetists. Hours of visiting and operation, 2 to 5 daily. Beds 101; in-patients, 1713. When the new wing, nearly finished,

is opened, the hospital will contain 173 beds. Clinical assistancies. Special departments for diseases of women, eye, ear, throat and nose, skin and for orthopædics. Hon. Secretary, Mr. Bidwell. Prospectus on application. (See advertisement, p. 3, cover.)

Royal Ophthalmic Hospital, Moorfields.—February and March course in "London Post-Graduate Course." Monday at 1 p.m., Wednesday at 8 p.m. Fee £2 2s.; fees for practice, perpetual, £5 5s.; six months £3 3s.; one month, £1 1s. Clinical assistancies. Clinical work begins at 9 a.m. Operations daily 10 to 1 p.m. Ophthalmoscopic class, Monday, Tuesday, Thursday, 7.30 p.m. Beds, 100; in-patients, 1,967. Secretary, Mr. Robert J. Newstead.

Hospital for Consumption, Brompton.—Spring course of lectures and demonstrations, January to March, Wednesday at 4 p.m. Clinical assistancies (out-patient), attendance in each twice a week at 12 p.m. Clinical clerks (in-patient), twice a week, 10 a.m. to 12.30 p.m., and attendance afternoon of their physicians, three or six months. Fees, inclusive, £1 1s. one month; £2 2s. three months. Beds, 321; in-patients, 1774. For forms, &c., apply to Secretary, Mr. W. H. Theobald.

St. Peters Hospital for Urinary Diseases, &c.—Clinical instruction (wards and out-patients), Monday, Tuesday, Thursday, Saturday, 2 p.m.; Saturday 4 p.m. Consultations and operations, Wednesday and Friday, 2 p.m. Beds, 24. Free. Secretary, Mr. Irwin H. Beattie. (See advertisement, p. 3, cover.)

Hospital for Diseases of Skin, Blackfriars.—In "London Post-Graduate Course." Next term, eight lectures. Wednesday 4 p.m. Beds, 10.

St. John's Hospital for Diseases of Skin, Leicester Square.—Clinical Demonstrations, Wednesday and Saturday at 2 p.m. Lectures, Wednesday and Saturday at 5 p.m. Fees, complete, £2 2s.; on Wednesday or Saturday, separately, £1 1s. (For complete syllabus see advertisement, p. xvi.). Beds, 25.

Throat Hospital, Golden Square.—Lectures and demonstrations "in the winter season." Fee, £2 2s. per course. Dates in medical journals. Fees for practice (including lectures), £3 3s. per quarter; £5 5s. per half year. Clinical assistancies, senior and junior. Attendance at 2.30 p.m.; Tuesday and Friday also at 6.30 p.m. Beds, 28.

Bacteriological Laboratory, King's College.—In connection with the "London Post-Graduate Course," a course of lectures and practical work, February to March, Friday 3 to 5 p.m. Fee, £2 2s. Other arrangements at this laboratory include "a complete course" daily 10 a.m. to 5 p.m., in January. Fee,

£5 5s. Evening class, January to March, Monday 7 to 9 p.m. Fee, £2 2s. Private study, one month, £5 5s.; laboratories also open for research. For prospectus, apply to Dr. Walter Smith.

British Institute of Preventive Medicine.—Laboratories open from 10 a.m. to 6 p.m. Instruction in bacteriology, bacteriological chemistry and in practical photomicrography. Fee, full month's course, including re-agents, &c., £5 5s. Evening class (from January 6), each Monday at 7 p.m. Fee, £2 2s. Open for original research. Apply to Dr. Macfadyen, temporary premises, 101, Great Russell Street, W.C.

There are a few other special hospitals at which special courses are arranged for graduates. All which have the kindness to supply us with particulars will, in future numbers, receive a fair and respectful notice.

Mr. Hutchinson gives clinical demonstrations at his museum, Portland Crescent, Tuesday afternoon. Free.

All the great hospitals to which schools are attached are glad to receive visits from graduates, but the latter have necessarily, except at isolated visits, to give way to the regular students and undergraduates. The days and hours of attendance and of the principal operating days are given in the weekly journals.

The museum and library of the Royal College of Surgeons are open daily, and access is readily obtained to them by British, American and foreign graduates and diplomats. Secretary, Mr. Trimmer, Librarian, Mr. Bailey. Special permission is required to visit the museum on Friday and Saturday. Library hours 11 a.m. to 7 p.m.; (to 1 p.m. on Saturdays). Museum hours 11 a.m. to 4 p.m. till February 28 (to 5 p.m., March 1 to August 21).

NOTES ON NEW PREPARATIONS AND APPLIANCES.

Iron Jelloids. Warrick Brothers, London.—This very elegant form of Blaud's pill is made by mixing freshly precipitated sub-carbonate of iron with jujube mass. One of the great advantages of this mode of preparation is that the iron salt does not become reduced, even after a lapse of time. Thus we have examined some specimens, which have been kept for eighteen months, and on cutting them open, the interior was found to be quite light in colour.

The jelloids are firm discs, not much larger than ordinary tabloids, and since they are flavoured with vanilla, they can be quite agreeably masticated by those who cannot swallow pills. Each jelloid corresponds to ten grains of Blaud's pill, and several combinations with arsenic have been prepared. We consider that, both on account of its palatable form, and on account of the absence of any oxidation changes after keeping, this preparation is the best form in which to administer the subcarbonate of iron.

Terrōl. The Terrōl Manufacturing Company, Limited, London.—This substitute for cod-liver oil is essentially a simple body, being composed entirely of carbon and hydrogen, and is obtained from petroleum. It is, however, entirely odourless and tasteless, and is of a rather viscid consistence, but it can be made sufficiently fluid by warming the bottle. It does not cause any stomach disturbance, even in dyspeptics, and when flavoured with a little wine it forms a draught to which the most fastidious child could not object. It is difficult to give an opinion upon the effects of this drug on nutrition, as compared with cod-liver oil, but we can state that patients increase in weight while taking terrol, and we must strongly recommend it in all those cases where the nauseating effect of cod-liver oil makes that drug objectionable to the patient.

Several physicians of our acquaintance have found that terrol was the only preparation which would stop the troublesome cough from which so many patients suffered after influenza; we can therefore recommend it for this purpose. Moreover, in cost it compares favourably with cod-liver oil, and it never becomes rancid.

The Liquor Carnis Co. have sent us some samples of their virol, marrol and liquor carnis with cocoa. Owing to the importance of the preparations, we have delayed referring to them till we have had time to make a trial of their quality.

Taka-Diastase. Parke, Davis and Co., London.—This preparation will be found of great value in the treatment of those forms of dyspepsia which depend upon the faulty digestion of starchy foods. It is a tasteless powder, which dissolves readily in water and can be combined with other remedies. Its power of converting starch into sugar is very great, and a very simple test will convince any one that 100 times its weight of starch will be converted by it into sugar.

We have no hesitation in describing this body as the best diastatic ferment, for it is superior to malt extract, both on account of its greater efficiency, its pleasanter form, and its small dose (5 to 10 grains).

The question of the dependance of many forms of dyspepsia on the presence of undigested starch in the stomach, is one which is not so fully recognised by all practitioners as it should be, and we can recommend any of our readers, who suspect such to be the nature of some case of intractable despepsia, to try the effect of taka-diastase.

We would venture also to suggest its use in the feeding of infants, in whom the dire effects of starchy foods and their influence on rickets, is well known.

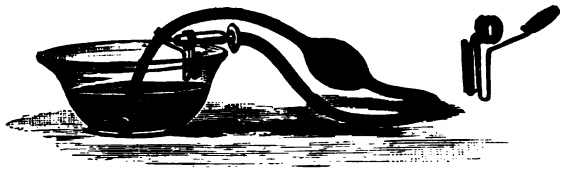
We hope to carry out some investigations on this point, and report the result in our next issue.

The Patent Basin Enema Clip, Reynolds and Branson, Leeds.—This ingenious little instrument consists of a piece of wire bent into a special shape so as to clip the side of an

ordinary basin; attached to it is an india-rubber ring through which the suction tube of the enema is passed. When the enema is in use this apparatus will prevent any kinking of the

tubes and will also prevent the suction tube from being dragged out of the liquid. In this way the surgeon only requires one hand for the use of a Higginson's syringe. The following sketch shows the apparatus in use.

When the enema is not being used the end of the delivery tube can be inserted in the hollow of the spring of the clip, and in this way any wetting of the bed by the syphon action of the enema will be avoided. This use is shown in the second sketch.



If once used, we think that this clip will be found to be almost indispensable to the use of an enema syringe.

Male Nurses Temperance Co-Operation, Great Marylebone Street, W. — This association of male nurses consists of a body of fully trained, either hospital or asylum nurses, all of whom have had at least three years' training. There are certain diseases in which the attendance of a female nurse is objectionable to the patient, but the difficulty of obtaining trustworthy male nurses has hitherto been so great that patients have been obliged to have an ordinary female nurse or none. Here, however, we have an association where perfectly trustworthy male nurses can be obtained who, more over, are all guaranteed to be total abstainers, which is a not unimportant point where dealing with men.

We understand that though the Institution has been established little more than two years, it has nurses now all over the country, and it is still able to answer any summons at the shortest notice.

NOTES AND NEWS.

A GRAND bazaar and fête will be held next May in the new wing (now nearly completed) of the hospital in which our Society was born and still meets. No less than twenty-three stalls have been promised. Among the ladies interesting themselves as Patronesses, &c., are their Royal Highnesses the Princess of Wales, the Princess Louise, the Princess Mary, Duchess of Teck, as well as the Duchess of Devonshire, the Countess Percy, the Countesses of Jersey and Ilchester, Lady Mary Glyn, Lady Roberts of Candahar, Lady Glenesk, Lady Brackenbury, the Marquesa de Misa, Lady Agnes Cooper and Mrs. Leopold de Rothschild. Mrs. and Miss Alderson, Mrs. F. Lawrance, Mrs. Causton, Mrs. Gunton Alderton, Miss Andrews, Mrs. Barry Ball, Miss Abraham, Mrs. A. G. Wells, Mrs. Vere Benson, Mrs. Keetley are among the names of stall-holders, and we feel some pride in pointing out that they in a measure represent the West London Medico-Chirurgical Society in an excellent work.

THE February meeting of our Society is likely to prove very attractive. Mr. Jonathan Hutchinson has accepted the invitation of the Council to introduce a Discussion on Gout. It is generally known that gout is one of Mr. Hutchinson's favourite subjects, and it may be conceived that he will have much to say thereupon which will be of interest.

IT goes almost without saying that well organised discussions on interesting topics come as a welcome change to the usual *menu* of Society proceedings. In the majority of medical Societies such *menus* are commonly made up as follows. There are the *Hors d'Œuvres* consisting of a few interesting clinical cases; this course is succeeded by a *Potage*, served as a paper on, say, "a case of anæmia in a young girl;" then a *Poisson* is offered in the form of a communication on say, "The treatment of chlorosis by perchloride of iron;" lastly, a solid *Roti* concludes the repast, represented by a paper on, say, "The surgical treatment of cavities containing pus." Experience teaches that should one of the first courses prove more than usually attractive, great difficulty is encountered in obtaining for the subsequent courses that measure of attention which probably their merit deserves.

HOWEVER, a change of diet, metaphorically speaking, is found to contribute greatly to the success of medical Society work, and thus there is much to be said in favour of a judicious interpolation of special discussions when the occasion arises.

THE March meeting of our Society will, as arranged by the Council, be a "clinical evening."

As it has not been elsewhere stated, we may observe here that our JOURNAL will appear on the 1st of January, April, July and October respectively, of each year.

THE new wing of the West London Hospital is fast approaching completion. When completed, some seventy beds more will be added to the service of the hospital. At present the new building is largely hid by the houses facing the Hammersmith Road, and it will be some time before these will be removed. One or two of them are being used for the nurses, for whom otherwise the hospital authorities would find difficulty in providing accommodation.

WE trust that the members of the Society will approve of the design of the medallion which appears on the cover of our JOURNAL. After the JOURNAL had been definitely decided upon, the form which the medallion should take was one of the first questions which suggested itself for solution. But, it so happened, that the problem presented many difficulties, as will appear from what follows. The first idea to be suggested was to have a counterfeit presentment of the distinguished man of science, after whom the Cavendish Lecture is named. With this object in view, inquiries were made both at the library of the Royal Medical and Chirurgical Society and at the library of the Royal College of Surgeons, in order to ascertain whether there were any portraits extant of the Honourable Henry Cavendish. After much investigation of catalogues, Mr. Bailey, the courteous Librarian of the College, handed us "The Life of the Honourable Henry Cavendish," by Dr. George Wilson, the frontispiece of which consisted of a woodcut of a curious looking little old man in a three cornered hat, with long hair hanging over his shoulders—it may have been a wig—dressed in a coat defying description, and clad as to his legs, in a manner suggestive of an ancestral type of knickerbockers.

THE woodcut was taken from an original water-colour sketch in the Print Room of the British Museum; the history of the sketch is somewhat remarkable. Mr. Cavendish emphatically refused upon every occasion to have his portrait taken. But at length, by strategem, the desire of his friends in this respect was attained. He was invited by a great friend to a

club dinner, and the artist present, unknown to Mr. Cavendish, succeeded in taking the sketch of him which was subsequently bequeathed by the former to the British Museum. This is the only likeness which is known to exist of this distinguished man of science.

BUT however appropriate the portrait of Mr. Cavendish might seem for the purpose of adorning the cover of the JOURNAL, the conclusion was nevertheless arrived at that, were the suggestion to be carried out, some misconception might be caused with respect to his appearance. Under the circumstances, therefore, it was deemed to be more expedient to look elsewhere for the design of a medallion.

THE matter was accordingly taken in hand by our President. While on a visit to Cambridge he submitted a sketch, which now appears on the cover, to several of the authorities on the subject in the university. In a letter he says, "I have had some trouble about both the design and the inscription, which latter is the deliberate choice of the University of Cambridge. The abbreviations stand for "*Societas medicorum (et) Chirurgicorum Londini Occidentalis.*" It is good mediæval Latin, and the "*et*" is correctly dropped. All sorts of authorities were searched and much deliberation of a frightfully learned nature took place at Trinity in connection therewith."

SUCH is the history of our medallion; and the care bestowed upon its design only shows how difficult a matter it sometimes is to solve a problem which appears to be simple.

West London Medical Journal.

NOTICES.

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THE

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Original Communications.

THE RATIONALE OF THE ACCEPTED TREATMENT OF GOUT.

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THE diffidence which I naturally felt when asked by our Secretary to read a paper introductory to a discussion on gout at this Society, was very greatly increased when I realised fully the extreme diffculty of the subject which I had chosen, and my want of power to afford it any adequate treatment. I must therefore pray you at the outset to pardon the shortcomings of my attempt to lay before you some of the bearings of recent pathological investigations upon the treatment of gout.

Before beginning to speak of its treatment, it will be necessary to attempt, very briefly, to gauge the depths of our ignorance of the pathology of this disease. For, truth to tell, we know very little about it, although the subject is one which has long had a special attraction for English physicians; and

especially for those resident in London, which city may be regarded as the headquarters of gout.

We do know that in gout there is an accumulation of urate in the blood, but when we go beyond this we are confronted by a mass of conflicting theories, and, what is even more discouraging, by a mass of conflicting experimental results.

In the first place, there are some who hold that this accumulation of urate does not constitute the essence of the disorder, which is primarily a disease of the solid tissues, the excess of urate being a secondary phenomenon, or even a product of the local inflammatory processes.

Since, however, in our treatment the object almost exclusively aimed at is the removal of the urate present in the blood, or deposited in the tissues, we may, on the present occasion, confine ourselves to the chemical problems of the disease. The actual place of origin of the uric acid produced in the animal economy is still a matter of dispute. The prevalent view is that it is formed in the liver, but there are those who maintain that the kidney is the seat of its production. By some it is believed to be largely derived from the proteid of food, by others it is regarded as an intermediate product in the metabolism of the body proteids, which metabolism is impeded under certain circumstances, with the result that uric acid is formed in place of urea.

The recent investigations of Horbaczewski render it at least very probable that uric acid is derived from nuclein. This observer found that the administration of nuclein by the mouth increased the output of uric acid, and the increased formation of uric acid in cases of leucocythæmia is by him explained as due to the destruction of leucocytes, which yield an abundant supply of neuclein. For Horbaczewski, an increased formation of uric acid is a regular concomitant of leucocytosis, and the greater excretion on an animal than on a vegetable diet is due to the greater leucocytosis which follows the ingestion of meat. The question cannot even be regarded as completely settled whether the accumulation of urate in the blood in gout is due to increased production, or to diminished excretion, or to absorption from the kidneys, but the greater weight of evidence appears to be opposed to the theory of increased production. Conflicting results have been obtained from the examination of urine, even when those

observations are excluded in which methods open to objection were employed for the estimation of the uric acid excreted.

In most instances, such observations have been made during the more chronic stages of gout, and there is reason to think that observations carried out before, during, and after acute attacks, might show an obvious diminution of the excretion.

The conflict of results is partly due to the wide fluctuations to which the uric acid excretion of healthy persons is liable, and in part to the fact, to which Levison calls attention, that mere urinary examinations afford no certain evidence on this point, seeing that, if the excretory apparatus is imperfect, an increased production of uric acid may be followed by an increased excretion, although some of the excess formed is constantly being retained and accumulates in the blood.

Such observations as those recently carried out by Vogel, on three cases of chronic gout, and extending over a period of several weeks, in which the total nitrogen of the food, fæces and urine, as well as the uric acid excreted in the latter, were estimated daily, promise to throw further light upon this question.

Vogel observed a conspicuous diminution of the total output of nitrogen, which was decidedly less than the intake in the food, but this diminution was by no means accounted for by the somewhat low level of the uric acid excretion.

It is interesting to note that the phenomena observed in these gouty patients, who showed no clinical signs of renal disease, showed a remarkable resemblance to those observed by Von Noorden in cases of chronic interstitial nephritis; especially when this result is taken in connection with Levison's recently expressed view that chronic interstitial nephritis is an invariable precursor of gout. Levison, who holds that in that malady the earliest and primary change is a degeneration of the renal epithelium, believes that the disease may exist for a long period before it manifests its presence by giving rise to the recognised and recognisable signs and symptoms of chronic renal disease.

Haig, who has devoted the labour of years to the experimental study of the part played by uric acid in the production of disease, takes as his starting point the relation between the urea and uric acid excretion, which he believes to be, under normal conditions, a practically constant relation of 33 to 1.

When, as is often the case, the uric acid excretion falls below this ratio, he believes that such fall is due to the retention of uric acid in the organism and its storage in the spleen or elsewhere, while he attributes a corresponding rise in the proportion of uric acid to urea to the washing out from its lurking places of the uric acid thus stored away.

The strongest argument in support of this view is afforded by the fact observed by Haig and others, that when a drug is given which leads to a relatively increased excretion of uric acid, the increase falls off after a time and the normal ratio is once more restored. A series of events, which is, of course, readily explained if we suppose that the store of retained urate has become exhausted.

Upon the existence of such a constant ratio between uric acid and urea formation, and upon the explanation which he offers of the observed deviations from this ratio, the validity of the greater part of Haig's views obviously depends; but it must be noted that the existence of such a constant relationship is by no means acknowledged by all, nor is it easy to see how such a ratio can be maintained if, as Horbaczewski believes, the uric acid excreted in the urine is derived chiefly or wholly from leucocytes. Lastly, it is necessary to notice a conflict of opinion upon another point. Whereas Ebstein and Haig, together with some other observers, regard the presence of urate in solution in the blood as noxious, others, among whom is Sir William Roberts, attribute its power of producing gouty lesions solely to the tendency to the deposition of crystals of sodium biurate in the tissues. Although amid such a conflict of opinions and results it seems hopeless to look for any sure foundation for a rational system of treatment of gout, three results to be aimed at clearly present themselves:—(1) Whether the accumulation be due to excessive production or to deficient elimination of uric acid, it is equally desirable to limit, as far as possible, the formation of uric acid in the body; (2) it is desirable to promote the excretion of the accumulated urate in the urine; and (3) it is desirable, if possible, to remove the deposits of sodium biurate in the solid tissues. If, however, we hold with Ebstein that the deposition is secondary to an ulcerative process produced by the urate dissolved in the blood, this last indication will have comparatively little importance except for the removal of deformities.

The methods by which it is attempted to obtain such results are as follows:—(1) By controlling the diet of the patients; (2) by enjoining exercise; (3) by the administration of drugs; and (4) by the use of natural mineral waters, both internally and externally. Let us briefly consider these several methods of treatment in turn.

(1) *Diet.*—The course of diet usually prescribed for the gouty was not based upon the more modern views of the pathology of the disease, but was arrived at empirically before these were thought of. It is certainly almost universally accepted that the ends of treatment are most nearly obtained by the limitation of the nitrogenous elements in the food—by cutting off meat to a greater or less extent.

We may, I think, take it as an established fact that the total daily excretion of uric acid is greater on an animal than on a vegetable diet. The investigations of Hermann, Marès and Horbaczewski, all show this. When, however, we pass to the explanation of this fact, we find the same conflict of opinions as in other parts of the subject.

The ordinary view has been that the more proteid introduced, the greater will be the amount of urea and uric acid that is formed from it. Haig has estimated the amount of uric acid contained in various articles of diet, and while he assigns to cold roast leg of lamb ·050 per cent. of uric acid, the amount in meat extract reached ·883 per cent. His experimental results tend moreover to show that administration of uric acid by the mouth tends to increase the amount excreted in the urine, and he ascribes this increase chiefly to such introduction.

He sums up his views on this point as follows:—

"With regard to diet, we can give the main point in very few words, for we have seen that as flesh diet increases the introduction of uric acid, it increases the formation of uric acid, and its salts diminish the excretion and elimination of uric acid. A milk and vegetable diet, on the other hand, introduces less uric acid (because urea is not unnecessarily high), and its salts promote the free elimination of all uric acid that is introduced into, or formed in, the body."

Horbaczewski states that the increase in the uric acid coincides with the leucocytosis which occurs after food, and refers it to the nuclein yielded by the destruction of the

leucocytes. Experimenting with healthy men, he found that after a meat meal the leucocytosis and uric acid excretion were both decidedly greater than after one consisting of vegetable food. Haig, on the other hand, associates the increase after a meal with the occurrence of the alkaline tide.

There are not wanting those who maintain that a diet consisting chiefly of meat is more suitable for gouty patients than that usually prescribed. Dr. Mortimer Granville, who holds this view, adduces as his chief argument that strictly carnivorous animals excrete very little uric acid, and that therefore uric acid formation cannot be increased by a meat diet. It is not, however, possible to argue thus from one animal to another, for there is abundant evidence that the amount of uric acid excreted by any given species stands in no direct relation to diet. Were it so, how would it be possible for the nitrogenous excretion of a lizard and a toad to be in one case practically all in the form of urates, in the other of urea, seeing that the food of both consists of the lower forms of animal life.

Pfeiffer, to whose views lack of time forbids me to refer at any length, believes that the phenomena of gout are due to a modification in the uric acid formed, and measures the extent to which this change has taken place by the amount of the contained uric acid which is intercepted when the urine of the patient is passed through a filter upon which half a gramme of pure uric acid has been previously placed. That which is retained upon the filter he calls "free," and that which passes on into the filtrate he calls "bound" uric acid. It will, of course, be understood that the word free is not here employed in its *chemical* sense, *i.e.*, as signifying uncombined.

Pfeiffer states that in the urine of gouty patients much more "free" uric acid is present than in that of healthy individuals, and from his observations of the effects of treatment upon the tendency to excrete this "free" uric acid, he comes to the conclusion that the limitation of nitrogenous diet is quite unnecessary. He holds, indeed, that such restriction may be absolutely detrimental. I may mention that the validity of Pfeiffer's conclusions, from the results obtained by his uric acid filter, has been challenged by Sir William Roberts in this country and by Ebstein in Germany.

If we accept the prevalent view, that it is desirable to limit

the nitrogenous food of gouty patients, we must, of course, remember that in this, as in all other respects, each individual case requires to be treated upon its merits, and it would obviously be unwise to prescribe an identical diet for a stout gouty man of sedentary occupation and habits, and for another who spends a large portion of every day in pursuits which bring the muscles into active use.

With regard to the carbo-hydrate elements in the diet, I am unable to find any adequate ground for the widespread belief that sugar *qua* sugar is bad for gouty patients—a view which, I take it, had its origin in the injurious influence exerted by certain sweet wines and articles of food. Obviously, if sugar itself is injurious, all starchy substances must be the same, seeing that starch is converted into dextrose by the digestive secretions. Pfeiffer, indeed, on similar grounds to those which lead him to recommend meat diet, recommends the exclusion of carbo-hydrate as far as possible. Yet since there is no reason to ascribe to a carbo-hydrate diet any property of increasing uric acid formation, it can only prove injurious in this respect, if at all, in an indirect manner, by disturbing the digestion.

Again, there is no evidence that alcohol *qua* alcohol increases uric acid formation or hinders its excretion, and yet it is one of the best established facts about gout that certain alcoholic beverages are very harmful to those who have the gouty tendency.

The comparative rarity, now-a-days, of cases in which the tophaceous deposits are large enough to produce extreme deformities, is referred, and apparently with good reason, to the changes in habits during the last few generations in the matter of alcoholic drinks, and especially to the greatly diminished consumption of port. Yet we do not know what are the actual constituents to which port, champagne, and the heavier ales owe their injurious action, or how far these are due to the presence of the products of incomplete fermentation.

Dr. Haig believes that the above alcoholic beverages owe their effects to their acidity, for he finds that the administration of acids always reduces the excretion of uric acid as compared with urea, and, as has been said, he ascribes such disturbances of the proportion of the uric acid and urea

excretion to retention of uric acid in the system. From his point of view the administration of a glass of champagne is equivalent in this respect to that of a dose of acid. It is obvious that this explanation is capable of accounting for the scanty gout-producing properties of alcohol itself, as evidenced by the rarity of the disease among populations among whom spirit drinking is prevalent, to the exclusion of the consumption of beer and wines. On the other hand alcohol, by producing chronic renal disease, will, if Levison's views are correct, itself favour to some extent the development of gout, just as does chronic poisoning by lead.

Physical Exercise.—Concerning the effect of exercise upon uric acid excretion, such observations as have been made by Levison, Haig and others, point to a decided increase under its influence.

At first sight such observations seem to explain satisfactorily the fact which has long been recognised, and which may be regarded as established, that a sedentary life favours, while an active life tends to ward off, the recurrence of attacks of gout. But we must not forget that an increased excretion, unless it can be shown to be unaccompanied by an increased production of uric acid, is not necessarily beneficial to a gouty subject, and, *a priori*, there is a great probability that the increased excretion due to exercise is really the outward sign of an increased production due to a more active tissue metabolism. Levison, indeed, holds that excessive muscular exertion thus favours the development of an attack, and quotes Scudamore in support of this statement.

Drugs.—Among drugs the alkalies may be conveniently considered first.

Different observers, whose results are brought together by Von Koorden, in his valuable work on "Die Pathologie des Stoffwechsels," to which I am indebted for much valuable aid in the preparation of this paper, ascribe to alkalies different effects upon the excretion of uric acid. Thus Clar found a decided increase after their administration; Salkowski noted an equally decided diminution, and Hermann could not find that any influence was exerted by the taking of large quantities of the salts of vegetable acids.

Haig assigns to alkalies a most important influence in favouring the excretion of uric acid, in contra-distinction to

the effects of acids above referred to. He believes that alkalies carry out the urate from organs, such as the spleen and liver, in which it has been stored away, and that its consequent presence in the blood is apt to be manifested by raised pulse tension, uric acid headache, and other phenomena due to this same cause.

This action of alkalies he connects with their solvent power upon uric acid, and summarises his results by stating generally that "all substances which increase the solubility of uric acid increase its excretion and clear it out of the body, while conversely all substances which diminish its solubility diminish its excretion and tend to produce its retention in the body and accumulation in various organs and tissues." He states, moreover, that, "speaking generally, and apart from the action of other solvents, it may be said that the excretion of uric acid from day to day, and hour to hour, is inversely as the acidity of the urine."

In a series of investigations carried out with excellent methods, Herringham and Groves obtained results which appeared to be inconsistent with Haig's views as to the variations of the uric acid excretion in inverse ratio to the acidity of the urine, and although Haig has replied to their criticisms, he does not appear to me to have by any means disposed of them.

It has usually been held that drugs which form soluble compounds with uric acid are eminently suitable for administration to gouty patients, but to the chemist such reasoning appears to rest upon an erroneous basis, for he knows that, in the laboratory, acids tend rather to combine with the bases with which they form the least soluble compounds, and that it is vain to endeavour to get an acid into solution by presenting to it a base with which it forms a compound more soluble than that in which actually exists.

Some prefer to administer sodium compounds, others those of potassium or lithium. Sir William Roberts, in the course of his investigations of the factors which influence the solubility of precipitation of sodium biurate from solutions of water in blood serum and synovial fluid, found that no condition so greatly favoured such precipitation as the addition of sodium salts, and he points out that the distribution of uratic deposits bears a striking relation to the percentage of sodium salts contained in the several organs and tissues. On these grounds

he recommends a restriction of the intake of sodium chloride by gouty patients. He further states that alkalescence, as such, has no influence whatever upon the solubility of sodium biurate, and speaks very doubtfully of the efficacy of alkalies in general in the treatment of gout.

On the other hand there are many medical men who have long employed alkalies in the treatment of gouty conditions, and who are firmly convinced of their utility, apart from any actual reasons by which their efficacy can be explained.

Haig obtained the remarkable result that lithia actually diminishes the excretion of uric acid. This apparent exception to the rule which he lays down he explains by quoting Rose's work on Chemical Analysis, in which book it is stated that lithia taken by the mouth forms a nearly insoluble triple phosphate with phosphate of soda, or with the triple phosphates of ammonia and soda. Haig supposes that not only is lithia thus prevented from getting at the uric acid at all, but also favours the retention of uric acid by withdrawing from the blood some of the sodium phosphate which it contains—a substance which, in the presence of an alkali, he has found to increase the uric acid excretion.

With the alkalies must be classed the organic base piperazine, and the still more recently introduced lysidine, both of which have been extensively employed in gouty cases, on account of their remarkable power of dissolving uric acid. As to their efficacy very conflicting opinions are expressed, and it is obviously a matter of extreme difficulty to form an estimate of the power of a drug to ward off the recurrence of gouty attacks, which even in untreated cases are irregular in their appearance. Some hold them to be of great value, while others, such as Sir William Roberts and Levison, have formed a very poor opinion of the utility of piperazine. In a recent paper Grawitz states that he obtained much benefit from the administration of lysidine in some cases of tophaceous gout, but Klemperer and von Zeisig observed no noticeable influence of this drug in three typical cases. A similar conflict of statements prevails as to the influence of these drugs upon uric acid excretion, which several competent observers have declared to be *nil*. Even Haig, who lays so much stress upon the relation between the action of a drug in this respect, and its power of dissolving uric acid, states that

although piperazine increases the excretion of uric acid, its action is not very potent, and is far less conspicuous than that of the salicylates. Biesenthal, on the other hand, states that even in the presence of an excess of uric acid, not the biurate, but the neutral urate of piperazin, is formed, which salt is excreted intact by the kidneys, and seems to have a much greater diffusibility through animal membranes than sodium biurate has.

I trust that some future speakers will bring forward some clinical evidence of the efficacy or inutility of piperazine in the treatment of gouty attacks, or in warding off their recurrence.

Colchicum.—There is a tendency at the present day to minimise the good effects of this drug, which our fathers regarded as practically a specific in true gout, and to emphasise the ills which may result from its depressant action. I must take my stand with those who hold that colchicum has a remarkable curative power upon acute attacks of gout, and that not only is this effect obtained by means of much smaller doses than are usually given, but also that when given in such smaller dose (♏ v.-xv.) it is but little apt to produce any ill effects, provided that its use is avoided in cases in which the heart's action is exceptionally feeble.

It must be confessed, I think, that no adequate scientific explanation of the action of colchicum has yet been found. Haig's belief that this drug gives relief in true gout by increasing the alkalinity of the blood—that, in fact, it acts as an alkali—seems to me hardly to afford an explanation of its efficacy, even when taken in conjunction with its depressant action, to which he attributes its effect upon joint lesions which are rather the sequelæ of gouty arthritis than true gouty phenomena.

Sodium Salicylate.—To this drug Haig attributes a remarkable efficacy in all conditions resulting from an accumulation of uric acid in the system, and among these in true acute gouty arthritis. He finds that the salicylates cause an increase of the uric acid excretion, forming with this substance the compound known as salicyluric acid—a compound more soluble, not only in neutral, but also in slightly acid liquids. He advises their administration apart from any alkali, and in amounts such as are given in acute rheumatism. This author attributes the adverse statements which have been made

partly to the administration of insufficient doses—such as ten grains three times a day—and partly to errors of diagnosis, the joint lesions following upon acute gout being confused with the true gouty arthritis.

I am far from being convinced of the great efficacy of sodium salicylate in true gout, and I could quote high authorities in support of this attitude. It will be of great interest to hear the opinion of any here present who have administered sodium salicylate in adequate doses in unquestionable cases of acute gouty arthritis, and I trust that some such experiences will be brought forward this evening.

Levison, who is one of the most recent writers upon the subject, says that sodium salicylate, "owing to its success in acute rheumatism, has also been tried in gout, but has by no means proved of like service in this disease." Sir Dyce Duckworth, too, ranks the salicylate much below colchicum in the treatment of acute attacks, but acknowledges them to have succeeded in his hands in some cases in which colchicum has failed to give relief.

It is obviously very important to make sure that the increased excretion under the influence of salicylate, is really due to a removal of stored up uric acid, and not to an excessive production of that substance; and in this connection the results of a recent investigation by Bohland, only published last month (in the *Centralblatt für innere Medicin*, 1896, No. 3), are of much interest. Bohland found that the administration of sodium salicylate is capable, as Haig states, of producing a conspicuous increase in the amount of uric acid excreted in the urine, but that this increased excretion corresponded with an increase of the leucocytes of the blood. He adds: "We may then draw the conclusion from our experiments that moderate doses of sodium salicylate cause an obvious increase of leucocytes in the blood, and if Horbaczewski's theory is correct, a considerable leukolysis, and in consequence an increase of the uric acid excreted." Bohland concludes from these considerations that the employment of sodium salicylate in the treatment of gout is not to be recommended, since the increased formation of uric acid, which he believes the drug to cause, is only likely to lead to a further deposition of urate in the tissues.

We must bear in mind, however, that the validity of

Bohland's conclusions is dependent upon the truth of Horbaczewski's theory already referred to, and however probable this theory may appear, we must always remember that the origin of the uric acid from the destruction of leucocytes is still a theory, and not, as yet, an established fact.

Guaiacum.—I have no facts to bring forward throwing light upon the efficacy of guaiacum, which I believe to be very great, especially in articular cases of the more chronic and lingering type, as well as in what used to be called "irregular gout." Its employment must be looked upon as purely empirical.

Mineral Waters and Baths.—Many of the mineral waters which prove most serviceable to gouty patients contain very scanty mineral ingredients, and their effects would seem to be largely due to the copious drinking of water than to any special ingredients Take, for example, two of our own principal mineral waters which have long had a merited renown for the treatment of gouty patients. I refer to those of Bath and Buxton. Both places possess thermal waters with little mineral impregnation, and continental resorts of the same class might be quoted.

We know but little of the effect of mere taking of water, hot or cold, upon the excretion of uric acid, and such results as there are, are as usual conflicting. Genth found, in 1850, that copious drinking of water diminished and finally abolished the excretion of uric acid; whereas Schöndorff, after a prolonged investigation, came to the conclusion that the taking of water had no influence at all; and Kusmanoff—whose results, like the previous ones I quote from Von Noorden's work already referred to—came to a similar conclusion. We find, then, in such investigations bearing upon this point as have hitherto been made do not afford any scientific basis for the beneficial effects of water drinking upon gouty subjects, or lend any countenance to the wide-spread idea that such treatment acts by washing uric acid out of the system. Nevertheless, I imagine that we shall none of us on this account cease to advise our gouty patients to follow a plan of treatment which long experience has shown to be beneficial to them.

Doubtless other factors besides the mere drinking of mineral waters combine to bring about the observed effects

of a mineral water course. The patient's habits are revolutionised—he rises earlier, takes more exercise, and leads a healthier life than he does at home, and at foreign health resorts especially he submits without a murmur to a regulation of his food and drink, which he would find very irksome if imposed at home.

Alkaline waters, such as those of Vichy or Ems—a class of which we have no representative in our own country—have doubtless effects similar to those of ordinary medicinal treatment, by alkalies; but some of the waters which enjoy a high reputation for the treatment of gouty subjects, such as those of Wiesbaden and Homburg, contain large amounts of sodium chloride, the very salt which Sir William Roberts considers especially to be avoided. In support of his views on this point Sir William Roberts quotes the statements often made by medical men practising at such saline spas, that in some instances the earliest effect of the treatment is to provoke an attack of articular gout.

I do not know of any observations bearing upon the effects of simple mineral baths upon uric acid excretion, but the douche massage system associated with the name of Aix-les-Bains, where it was originated, may be supposed to act in a similar way to ordinary bodily exercise, increasing the excretion, and probably also increasing the formation, of uric acid.

Dr. Forestier, of Aix, has made some observations upon this point. He quotes the results of the douche massage treatment in three cases of gout. In each instance the excretion of uric acid was increased, as also was that of phosphates and of urea. He found that a course of about twenty such baths sufficed to restore the excretory functions to their normal state, and to produce all the improvement which such treatment is able to produce.

I have now come to the end of my synopsis of observations bearing upon the action of the various therapeutic measures usually employed in gouty cases, and it must be confessed that the practical outcome is very disheartening. We must admit that this treatment must still be regarded as resting, to a large extent, upon a merely empirical basis, and that the time is still far off when we shall be able to give a scientific reason for each line of treatment that we employ. Nor is it difficult to see why this must be so; for in order to place the

treatment of any disease upon a strictly scientific basis, it is necessary that at least the leading facts of its pathology should be firmly established. This, as we have seen, is far from being the case with the disease which we have under consideration this evening; and until a clearer vision shall lead us to the correct interpretation of the pathological problems involved, we must be content to prescribe for our patients what our own experience and the experience of others has shown to be most calculated to do them good. Nor need we be disheartened by this, for I am ready to contend that there are few diseases in which judicious treatment, empirical though its basis may be, is more effectual in giving relief to the sufferers and in warding off recurrences.

THE DIAGNOSIS OF GONORRHŒAL INFLAMMATIONS.

By FREDERICK JOHN MCCANN, M.B., C.M.Edin., M.R.C.P.London.

Physician to Out-patients at the Samaritan Free Hospital for Women and Children.

As an early recognition of the true nature of gonorrhœal inflammations is imperative, I purpose in this paper to describe step by step the methods of diagnosis.

Method of obtaining pus.—For this purpose a platinum needle mounted on a glass rod is required. The needle should be heated to redness in the flame of a spirit lamp before use, in order to render it sterile, and again each time after use.

The cover glasses on which the pus transferred by the needle is placed, should be washed in nitric acid and distilled water. The part from which the pus is taken, *e.g.*, the penis or cervix uteri should be cleansed with a suitable antiseptic. The first drops of pus having been rejected, the next are caught on the looped end of the platinum wire and rapidly placed on the surface of a clean cover glass; a second cover glass is pressed down on the top of the first, the two then

rapidly separated and each passed two or three times through the spirit lamp flame in order to coagulate the albumen. The result is, that each is covered by a thin film of pus, and can be preserved in a pill box until required for examination.

Method of staining.—I do not intend to describe in detail the various staining methods employed, but rather to indicate the particular stain and method of staining which has furnished the best specimens.

The essential points to be remembered in staining specimens whether cover glass preparations or sections, are these:—(1) use fresh staining reagents; (2) filter all stains before use; (3) allow specimens to stain for a definite time until sufficient experience is gained to differentiate the exact colouration required.

Much valuable time will be gained by attention to these rules, and many failures avoided.

The staining solution which has given the best results in my hands is composed as follows:—fuchsin 2 gr.; alcohol, 20 cc.; water, 100 cc.

The advantages of fuchsin being (1) rapidity of action; (2) less risk of overstaining; (3) strong solutions may be used.

The fuchsin solution having been filtered into a watch glass, the cover glass preparation is allowed to remain in this solution for thirty seconds or even less. It is then removed and transferred to another watch glass filled with distilled water until the excess of the stain has been dissolved. The superfluous fluid is soaked up by means of a piece of bibulous paper, and the cover glass allowed to dry.

When dry, the specimen is mounted with xylol balsam. A small drop of balsam is placed on the centre of a slide and the cover glass preparation super-imposed in the usual manner.[1]

This method is so rapid that a complete examination can be made at once while the patient is waiting. As there is

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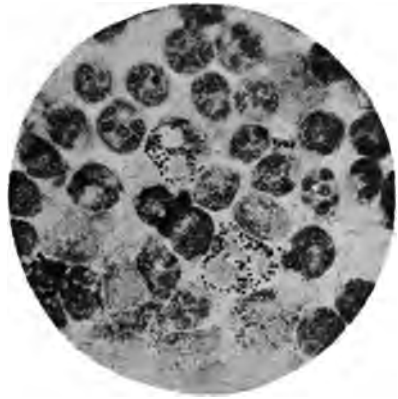
[1] As a confirmatory test Gram's stain may be employed (Forkschritte der Medicin, 1884, No. 6). After this method the gonococci remain unstained. This is not characteristic of the gonococcus, as some other diplococci react in a similar manner. It is well, however, to use this method as an aid to diagnosis.



Gonorrhœal pus stained with methylene blue and eosin. This specimen shows :

(1) Gonococci contained within the pus cells.

(2) The relation of the gonococci to nucleus and cell wall.

(3) The formation of vacuoles.

little risk of overstaining, the first trial may be very successful.

To make a complete examination the microscope should be provided with an oil immersion lens, and an Abbe's condenser; $\frac{1}{12}$ Zeiss oil immersion lens is sufficient for all practical purposes. The practised eye can, however, detect gonococci with much lower powers.

Appearance of the gonococci.—Gonococci stained by the fuchsin method are sharply defined. The cocci are seen to be separated into two distinct halves by a bright line. Each half is bean-shaped or vermiform, the concave surfaces looking towards one another. The gonococcus thus belongs to that division of micro-organisms to which the term diplococcus is applied. Further observation shows that the halves are again sub-divided into two. The generation of gonococci is by fission; the various stages in the process can be traced in well stained preparations.

Each diplococcus is seen to be surrounded by a highly refractile envelope, which may be noticed dividing preparatory to the division of the coccus.

The gonococci occur as pairs, in fours like sarcinæ, or in colonies. They never form chains, an important distinction from many other pus organisms.

Size.—The majority measure over 1 μ in length. Deductions from the size of the organism are apt to be fallacious as so many sources of error may arise.

Relation to the pus and epithelial cells.—In our specimen it will be seen that the gonococci are contained in large numbers within the pus cells, being situated in that part of the cell not occupied by the nucleus.

In some pus cells the gonococci are so numerous that actual bursting of the cell wall takes place with escape of the organisms. In others this number is less, and here the peculiar destructive action of the gonococci on the pus cells can be traced.

It has been alleged that gonococci never penetrate the pus cell nuclei. Bumm, who originally made this statement, affirmed that it was characteristic of the gonococcus.

My own observations have shown that the gonococci not only penetrate the nuclei, but also produce a gradual process of pus cell destruction in part antagonistic to the theory of Metchnikoff.

The same destructive process may be seen in epithelial cells. These cell changes can be best studied where contrast stains are employed, *e.g.*, eosin and methylene blue.

In the early stages of the disease, *e.g.*, the third or fourth day, the number of gonococci lying free apart from the pus cells is greater than in the later stages.

The shedding of epithelium is also greater in the early stages.

As the attack of gonorrhœa diminishes in severity, it will be seen that the gonococci gradually diminish in number, while there is a marked increase in the proportion of pus organisms.

In the final stages no gonococci are found, pus organisms still remaining until the discharge ceases.

It may be definitely stated that a large number of gonococci is never seen in conjunction with a large number of pus organisms.

I would offer for your consideration the following propositions:—

(1) *Gonococci are present in the pus of every untreated case at some period.*—Repeated examination of pus from cases of gonorrhœa affecting the genitalia in both sexes, and from gonorrhœal ophthalmia of the newly born, has shown the more or less constant presence of the organism which we term the gonococcus.

The disposition in relation to the pus cells and the stain reactions are alike constant.

It is evident that where the presence of gonococci is demonstrated in a purulent discharge, the disease is gonorrhœal in character. If, however, gonococci be absent, we cannot say that the malady has not been gonorrhœal. Here assistance is obtained from clinical evidence furnishing the history of a definite acute attack, resembling the signs and symptoms of acute gonorrhœa. The systematic microscopic examination of the pus in all cases of supposed gonorrhœa is essential to correct diagnosis. Such aid is especially needful where the disease affects the female genitalia, and where so many sources of error exist. In this class of cases I am convinced that a diagnosis of gonorrhœa is frequently made on very insufficient grounds.

(2) *Secretion free from gonococci does not cause a gonorrhœal*

inflammation.—The results obtained from inoculation experiments confirm the truth of this proposition.

Before concluding that gonococci are absent from a discharge, certain sources of error should be avoided:—(1) Small ill-developed examples may be observed; (2) owing to the scarcity of gonococci in the pus they may be overlooked, especially where only one or two preparations are made; (3) where numerous other pus organisms are present, *e.g.*, in pus from the cervix uteri, the gonococci are covered; (4) the gonococci may be embedded in the mucosa, appearing only at intervals in the secretion.

Cases should be examined frequently, and for some time before stating definitely that no gonococci are present.

(3) *Secretion containing gonococci even in small quantities affects sensitive mucosæ with absolute certainty.*—All must admit that the determination of the exact causation of gonorrhœa is of immense practical importance. The conclusions arrived at by most observers have tended to strengthen the original discovery of Neisser. At the same time, a large mass of facts is required before we can dogmatise.

If it be conclusively proved that the gonococcus is the cause of gonorrhœal inflammations, then in every case where this organism is found we can give a definite opinion that the malady is gonorrhœal.

The great importance of such a discovery medico-legally is at once apparent, *e.g.*, in cases of supposed rape, if gonococci be found contained in discharge from the vulva or vagina in the female, at the same time gonococci being discovered in the urethral pus from the male suspect.

Again, where prostitutes are systematically examined, the pus from the cervix uteri and urethra should be submitted to a careful microscopic examination before they are declared free from infective disease.

The Seats of Gonorrhœal Inflammation.—In the male the chief seat of infection is the urethral mucosa.

I shall not allude further to gonorrhœal urethritis as the course and complications are so well described in surgical text-books. I would, however, have you bear in mind that chronic purulent urethritis may, for our present purpose, be divided into two main divisions: (1) gonorrhœal; (2) non-gonorrhœal. As previously stated, we cannot say definitely

that the affection has not been gonorrhœal if no gonococci be found. At the same time such a discharge does not cause a gonorrhœal inflammation in the female, but may give rise to a septic inflammation from the presence of pus organisms.

The conjunctiva, joints, and more rarely the rectum are affected in both sexes. An affection of the endocardium has also been described; the proof of the nature of the disease has not been conclusive.

In the female genitalia the chief situations of gonorrhœal inflammation are:—the cervix uteri, urethra, Bartolinian glands and their ducts and the vagina. The disease may spread to the body of the uterus, Fallopian tubes and ovaries.

The cervix uteri is most commonly affected, probably owing to the more delicate epithelial lining which is constantly bathed with mucus from the numerous glands contained in the mucous membrane. Here also, the disease is prone to assume the character of chronicity, and for these reasons:—(1) Slight attacks are often disregarded; (2) the periodic congestion resulting from the menstrual function, tends to maintain or aggravate a pre-existing malady; (3) sexual intercourse, by producing increased congestion; (4) indulgence in alcohol favours the persistence of cervical gonorhœa, as it does all purulent catarrhal inflammations in both sexes.

From this we are led to discuss the manner in which the Fallopian tubes are affected in the female. Salpingitis, as every practitioner knows, causes great suffering to the unfortunate patients and much social misery. On this account it is well to be able to trace the origin of the malady.

I must again insist on careful and repeated examination of the pus from cases of cervical catarrh, for by this means and this alone, can a correct diagnosis be made. If gonococci be found, careful treatment should be employed to eradicate the disease as soon as possible.

Cases of gonorrhœal cervicitis correctly diagnosed and intelligently treated, are in my opinion rarely followed by tubal inflammation.

Suppose a case of endo-cervicitis, gonorrhœal in character, comes for treatment, a uterine sound is passed to measure the cavity of the uterus or for some other reason. By this manipulation pus is carried up to the fundus uteri, where

perhaps a slight traumatism is produced. At a later date salpingitis may follow. It is imperative, therefore, that the great danger attendant on the passage of the sound, or other instrument used for intra-uterine medication or diagnosis, be fully recognised. I am strongly of opinion that the incautious use of the sound, intra-uterine stem pessaries, tents and the like, is a factor of the greatest importance in the causation of tubal disease. Where the endo-cervicitis is not gonorrhœal in character, septic organisms are introduced by the passage of such instruments, and it is to these we ought to look in considering the ætiology of tubal inflammation.

Frequently salpingitis is diagnosed as gonorrhœal without a valid reason. Before such a diagnosis be made, a direct causal relationship must be shown between the attack of gonorrhœa and the outset of salpingitis. As in the urethra, the endo-cervical gonorrhœa may be followed by a purulent affection where no gonococci are found in the discharge, so that salpingitis following such cases, may be due to infection from pus organisms alone.

The Cultivation Test.—I have hitherto made no mention of our means of cultivating the gonococcus, as this is fully detailed in a paper to be published at an early date. It is sufficient for the present to state that this is the most important diagnostic aid in the detection of the gonococcus, in common with other pus organisms. The great difficulty in the cultivation of gonococci, arises from the rapidity in which they are overgrown. This is also shown clinically, where, in the late stages of the disease pus organisms alone are found.

I may add that my conclusions have been confirmed by the cultivation test. And inasmuch as this test is difficult to employ in the course of a busy practice, I have endeavoured in these pages to show how the gonococcus may be detected by the aid of the microscope. At the same time let me add that no definite opinion should be given unless cultivations of the gonococci have been made.

SOME OBSERVATIONS UPON THE TREATMENT OF ENTERO-COLITIS IN INFANTS AND YOUNG CHILDREN.

By Arthur H. Weiss Clemow, M.D.

There is no subject of greater importance to the community, and few of deeper interest to the general practitioner, than that upon which I am venturing to make a few observations this evening. Sir William Priestley, in a paper upon "Some Recent Observations on Infant Feeding" in the *British Medical Journal* of December 7, states that in certain portions of France not more than ten years ago the mortality of infants under one year amounted to more than 50 per cent., at Lille, in 1850, it actually amounted to 89 per cent. Even in Paris ten years ago it was found to be more than 27 per cent. Although nothing is stated as to the exact cause of the terrible death rate, I feel sure I may say without fear of contradiction that the diarrhœal diseases would claim by far the greater share.

In the remarks that follow I do not propose to deal with the treatment of the whole range of diarrhœal diseases in infantile and early life, but merely of those which are dependent upon the morbid processes of entero-colitis.

Success in the treatment of all diseases must depend to a very great extent, at any rate, upon a just appreciation of the causes which are at work, and although we have got very much to learn with regard to the etiology and pathology of entero-colitis, yet a clear perception of the ray of light which has been shed by the investigation of chemistry and bacteriology upon the causation of this disease has rendered it possible for us to adopt methods of treatment which have been raised from an empirical and placed upon a scientific foundation.

In entero-colitis there is, as the name implies, an inflammation of both small and large intestines, and the symptoms vary to some extent in accordance with the nature and extent of the mischief in the different portions of the digestive tract. The principal indication as to whether the small or large intestine is the more severely affected will be found in the character of the motions passed. When the colon is the

chief seat of the disease we may expect to find much more mucus and even shreddy-looking material in the stools, together with induction of small hæmorrhages, while severe straining and tenesmus indicate that the descending colon and rectum are implicated in the pathological processes. As to the exact nature of the lesions present in the intestines, I do not propose to say anything now. My aim is rather to draw attention to the nature of the causes which underlie the production of these lesions, and the symptoms to which they give rise, and from a careful study of the latter we can gather much to justify us in forming an opinion as to the former.

Diarrhœa is of course always present—a result of the irritated and more or less inflamed intestines. The number of the stools in the twenty-four hours may vary greatly, from four or five to possibly more than three times that number. Unless the patient is under treatment they are certain to be more or less offensive in character, sometimes intensely so. If the child is taking milk, undigested curds and creamy-looking masses will be found in the motions, together with much mucus, which, if coming from the small intestine, will be mixed up more or less intimately with the fæces, while if from the lower colon, it will be more or less clear and glairy in appearance. Blood, when present, is generally only in sufficient quantity to faintly streak the stool. The motions, which are most usually acid, rarely neutral, may be passed with much flatulence. The temperature is raised, though generally not to any very alarming height. The pulse is increased in frequency, and in severe or prolonged cases becomes feeble, irregular and intermittent. Nervous symptoms are generally prominent, and in the early stages of the disease may occasionally be so profound as to simulate meningitis. The child may be unconscious, lying on its back, with constant movements of the head alone, or head and body from side to side. Considerable restlessness is generally present, with constant crying and great irritability. Later on these symptoms give place to general dulness and apathy, the child lying perfectly quiet and listless, unless aroused by the attendants for food or other purposes. The tongue is usually moist, but more or less coated in the earlier stages; dry, red and glazed when the condition has become more pronounced.

A consideration of the above symptoms, and more especially those pertaining to the character of the motions and the condition of the nervous system, would indicate that we are dealing not only with an inflammation but with a state of toxic absorption as well. And, indeed, this is scarcely to be wondered at when we bear in mind that in the disease under consideration large tracts of the intestinal mucous membrane are in an irritated condition, the continuity of the epithelial covering disturbed and abraded, exposing the memberless lymphatics to the decomposing contents of the gut. What conditions could be more favourable to the absorption of ptomaines and the production of toxæmia?

That the intestines are at all times loaded with bacteria it is needless to point out. The child's natural food, milk, is probably the most germ-laden of all articles of diet. Drawn fresh from the mother's breast it is fairly free from bacterial contamination. But freshly drawn cow's milk has been shown by Sidgwick and Batchelder (*Brit. Med. Jour.*, 3, viii., 1895) to contain 30,500 micro-organisms per c.cm., while Mr. Sidney Rowland, in a research undertaken at the request of the editor of the *British Medical Journal*, found in several samples taken from various dealers in sterilised bottles, as many as 500,000 per c.cm., and of these the bacillus coli commune formed 90 per cent. It may be contended that this bacillus is present even in the intestines of the most healthy. But although this is an undoubted fact, it does not follow that because in health we can tolerate a certain dosage of these organisms without harmful results, we can equally contend against them when introduced in overwhelming numbers.

So long, however, as a child is strong and vigorous, with its digestive organs in healthful working order, the various microbes taken in the ordinary way in its food appear to be powerless for evil. But should it become the victim of some illness which depresses its powers of resistance, such, for instance, as bronchitis or pneumonia, or should its digestive capabilities become otherwise enfeebled by the administration of food excessive in quantity, or unsuited to its digestive powers, conditions are at once set up favourable to the rapid multiplication of the bacilli, the formation of poisonous ptomaines, and all the train of evil effects which their absorption must involve to the child.

Such, then, being the nature of the disease, attention may now be turned to the question of treatment, and here I wish more especially to emphasise the fact that it is quite impossible for me, in the scope of these few observations, to undertake the consideration of the matter in its entirety. To attempt to do so would mean to lengthen the paper unduly, and to impose upon your patience to an extent to which I do not feel justified.

Apart from the adoption of general hygienic measures as regards fresh air, ventilation, bathing or sponging, warmth to the abdomen and lower extremities, &c., the main indications for treatment are, first, to evacuate the fermenting masses from the stomach and intestines; secondly, to combat the process of decomposition by appropriate drugs; thirdly, to administer such food to the child as shall be best calculated to sustain its strength, and of such a nature as to minimise the introduction of fresh micro-organisms into the digestive tract, and least favourable therefore to a furtherance of the processes of decomposition; and fourthly, to treat symptoms and complications as they may arise.

To clear the intestines of their fermenting contents, we can employ nothing better than either a dose of calomel or of castor oil. The former combines with its action a very powerful antiseptic influence, while the latter equally effects a complete evacuation of the intestines, and would appear to have some slightly constipating after-action, which may be advantageous. This simple measure may undoubtedly bring to a rapid and successful termination very many cases which, if neglected, would have certainly gone on to a much more pronounced and obstinate form of the disease. But in very many cases also it does not suffice to do all that is required, and further measures are necessary. Dietetic treatment then becomes of the first importance, and I need scarcely add that in order to intelligently watch the effect of this and of whatever medicinal measures we may employ, it is necessary to inspect every motion that is passed. If undigested milk appears in the stools (as in all probability it will), I regard it as an indication to stop its administration at once. Whey may be advantageously substituted, and may be given either together or alternately with small quantities of raw beef juice, or of Brand's essence of beef or chicken diluted to form a weak

broth. Stimulants are almost always necessary, and of these I believe old brandy to be the best. Occasionally it may be required in large quantities, as, for example, in a recent case under my care, in which, commencing with fifteen drops every three hours to a child thirteen months old, owing to the very feeble circulation and tendency to collapse, I found myself obliged to gradually increase the quantity until at last he was taking thirty drops every hour, or one and a half ounces in the twenty-four hours. And from this large amount I should mention that at no time did the child appear to be under the influence of alcohol. As improvement in the character of the motions and in the general condition takes place, the amount of stimulant should of course be gradually diminished, and peptonised milk, made probably with Allen and Hanbury's or Savory and Moore's pancreatising powders, should be gradually substituted for the whey. If this appears to agree, and is shown by the character of the motions to be well digested, it may soon be partially and ultimately wholly replaced by sterilised milk. This can be most easily prepared by placing the milk in clean screw-stoppered bottles in a saucepan of water, which is allowed to boil for forty minutes. The milk never comes quite to the boil, but is nevertheless completely sterilised. The stoppers should be put for a few minutes at any rate into the boiling water, and inserted into the bottles when the saucepan is removed from the fire. Thus prepared, the milk is much more palatable than when it has been boiled in the ordinary way, and the curd being separated, according to M. Budin, into minute particles or flocculi, it is readily digested.

A very useful and nutritious adjunct to this dietary is bread jelly. This has the advantage of being very cheaply and easily prepared, and may be added to the whey or peptonised or sterilised milk in the proportion of a tablespoonful to eight ounces, thus making a food of the consistence of thin cream. Sweetened with a little white sugar, this is a very palatable mixture.

Cream in small quantities mixed with the food is generally well tolerated in these cases, and where whey is used as a substitute for the milk, it supplies a certain amount of fatty material in which such a dietary is otherwise deficient.

As regards medicinal treatment, I am strongly of opinion

that those drugs which exercise an antiseptic and antifermentative influence are by far the most efficacious. As my experience in the treatment of entero-colitis increases, so does my faith in the value of astringents, pure and simple, and of opiates diminish. The former, speaking generally, are of but little value so far as the cause of the disease is concerned, while the latter, except in the smallest doses, and in those cases where the number of stools is excessive, simply serve to disguise symptoms and cause a retention of decomposing material which it is most desirable should be got rid of from the intestines.

Of antiseptic drugs there are now a large number in use, and their employment and mode of action have been ably dealt with by Dr. Soltau Fenwick in a paper in the *British Medical Journal* of December 21. I shall make no attempt to deal with them all, but will confine my remarks principally to those which I have personally found useful in practice.

Of one thing I am quite sure. No one drug will prove universally efficacious. What succeeds in one case may in another appear to have no influence whatever. Bismuth I believe to be on the whole one of the most trustworthy of our remedies, and the form in which I have employed it has been the subnitrate. In the intestines, as shown by Drs. Surveyor and Vaughan Harley, this is decomposed into the black sulphide, nitric acid being set free. In order to obtain satisfactory results large doses are necessary, and I generally give 20 to 30 grains every four hours to children between one and two years of age. I have certainly never seen any harmful results from these apparently large doses, but have frequently seen great good.

Sometimes I have combined salol with the bismuth, but I am certainly not prepared to say that the patient would not have done as well with the bismuth alone. But I have also seen bismuth fail completely, both when administered alone, and in combination with solution of perchloride of mercury, and with salol. This happened in a case recently under my care, and here the most gratifying results followed the administration of calomel in fractional doses, $\frac{1}{12}$ gr. being given every hour for twelve hours, then every alternate hour for another twelve hours, and afterwards every third and fourth hour for similar periods. The stools very rapidly lost their

offensiveness, and assumed a much more natural consistence. Subsequent administration of bismuth, with small doses of rhubarb and soda, effected a cure.

Grey powder in small and frequently repeated doses I have also found very useful. β naphthol is certainly a powerful and satisfactory intestinal disinfectant in adults, but on account of its disagreeable odour I have not employed it in the case of children. Neither have I any experience of resorcin, which is so highly spoken of by Dr. Fenwick, and to which, in consequence, I certainly intend to give a trial.

I desire now to say a few words with regard to a method of treatment which I am inclined to think has scarcely received the attention in this country which it deserves. I refer to intestinal irrigation. The method, as I have employed it, has been as follows. The child is placed on his back across the bed, with his knees well separated, and the pelvis elevated upon towels on a small pillow, everything being covered with a mackintosh sheet, and plenty of old soft bath towels being at hand to soak up the fluid as it returns from the intestine. If sufficiently old to be made to understand, and to be kept quiet, no anæsthetic is necessary, but in the case of a very young child anæsthesia certainly facilitates the operation. Deep anæsthesia is neither necessary nor desirable, since it has seemed to me that the influx of fluid upon the abdominal sympathetic nerve has at times a somewhat depressing influence upon the heart's action. To the tube of a quart douche can I attach a large sized red rubber catheter, which I mark with an aniline pencil about six or seven inches above the eye. Upon the rubber tube, a little distance above its junction with the catheter, I place a clamp so that I can arrest the flow of water into the intestine at any moment that I think necessary. The can is filled with water to which ʒii. of borax or a small quantity of boroglyceride has been added. The temperature of the water is, I think, a matter of some little importance. I should certainly hesitate to employ the iced water which has been recommended by some. The operation itself involves some exposure and consequent loss of heat to the child; and it appears to me that to inject into the intestine large quantities of iced fluid would in all probability give rise to a considerable amount of shock, and to a dangerous and unnecessary lowering of temperature. My practice has

been that in the can the thermometer should show about 100° to 102° F. Roughly speaking, by the time the fluid reached the intestine its temperature would be somewhere about that of the body, or a trifle lower.

Having well lubricated the catheter as far as the aniline mark, it is inserted into the anus, and as soon as a couple of inches have been introduced the can is raised, and the fluid allowed to flow, and as the intestine is gradually distended, the catheter is pushed on until the aniline mark is reached. The fluid continues to enter until either intestinal peristalsis, or the child's straining, or both combined, commence to effect its expulsion, which takes place along the sides of the catheter. The can is at once lowered, and not raised again until the expulsive efforts have ceased. This procedure is repeated several times, and thus the whole colon, so far, probably, as the ileo-cæcal valve, is completely washed out. The water, as it returns at first, is usually intensely fetid and disagreeable, and brings with it much mucus and fragments of fæcal matter. This gradually improves, until at last it may be returned almost odourless and clear.

In the cases in which I have used this method, the effect upon the child has been most gratifying. After all the remaining fluid has been expelled from the intestine, a very much longer interval has elapsed before the bowels have acted again, and subsequent motions have been far less foul smelling, and accompanied by much less mucus. The patient has passed into a quiet slumber soon after the operation, and has appeared to be much less restless. It may be necessary to repeat the procedure once in twenty-four hours for a few days.

My own experience, therefore, leads me to believe that in some cases intestinal irrigation exercises a highly beneficial influence upon the course of entero-colitis. Being desirous, however, of ascertaining the views of others who have had far greater opportunities than have fallen to my lot, of testing the value of the method, I wrote to Dr. Barlow and Dr. Cheadle, each of whom have kindly replied to me. The former tells me that he has used irrigation in certain cases with striking benefit, but in others with much disappointment. Those which have responded best have been, first, where definite ulceration of the large bowel has existed; and

secondly, cases in which, from whatever cause, there have been fermentation troubles and much accompanying tympanites.

Dr. Cheadle says:—"Some years ago I tried irrigation with various antiseptics and astringents in the Children's Hospital somewhat extensively, in cases of tuberculous ulceration of the intestines, but the results were not encouraging—in fact, negative. It appeared to make no difference. In dysenteric diarrhœa, catarrhal colitis, warm enemata of mild antiseptics, such as boroglyceride (or simple warm water even), have seemed to me useful and beneficial in relieving the pain and tenesmus, and soothing the irritated mucous lining. I have used them little in the general catarrhal enteritis set up by irritant foods—the food diarrhœa of infancy. Possibly they may be useful in relieving the lower bowel of irritant matter, but they cannot, I imagine, act upon the small intestine—usually more involved than the large—and their frequent use involves great wear and tear."

A careful consideration of these two letters, combined with my own personal experience, has led me to form the following conclusions:—

(1) Intestinal irrigation exercises no influence upon the course of a tuberculous ulceration of the intestines.

(2) It is probably of little or no benefit in the ordinary cases of dyspeptic diarrhœa of infants, where the small intestine is wholly or mainly affected.

(3) It may be expected to exercise a beneficial influence upon the course of the disease in genuine cases of entero-colitis, and especially in those in which the colon is largely involved.

(4) It requires to be carried out with great caution, and more especially so in those cases in which there is great prostration.

In conclusion, I fear I have already exceeded the time allotted to me for the reading of this paper, but before I sit down I must ask you in your generosity to excuse its many shortcomings. It has been written in fragmentary intervals of time, and I fear is very incomplete. I trust that what I have said is not quite all an old story to you. The subject is one that has interested me much, and that must be my excuse for bringing it before you this evening.

Report of Proceedings.

Ordinary Meeting—January 3, 1896.

A. Symons Eccles, M.B., President, in the Chair.

Dr. McCann read a paper on the Diagnosis of Gonorrhœal Inflammation, which is published in the first part of the Journal.

The following discussion took place:—

The President: I consider that it is most important to conduct bacteriological examinations of any urethral discharge that may be present in cases of gonorrhœal arthritis, since there is very little hope of dealing successfully with the joint lesion so long as the gonococci can still be detected.

Mr. McAdam Eccles: After Dr. McCann's clear and concise explanation of the diagnosis of gonococci in pus by microscopic examination, perhaps, if it is not intruding too far on the subject of the paper, he would not object to adding to it, when it is published, a clear outline of his process of cultivation. This would be of great value, for in certain cases I am of opinion that by the microscopic examination alone, it is not possible to arrive at an unequivocal diagnosis. I should also like to know Dr. McCann's experience of "gonorrhœal rheumatism" or, preferably called, gonorrhœal arthritis in the female subject, especially as to whether in women the nature of the joint lesions is that of pyæmia rather than of gonorrhœa, seeing that suppuration is by no means infrequent.

Mr. Keetley: I believe that many cases of rheumatic or rheumatoid affections in both men and women are of gonorrhœal origin, in which it is impossible to establish any clear relationship of cause and effect. If we look into the text-books of ten years ago we shall be struck with the absolute transformation of our views as to the comparative importance of gonorrhœa in women. We now know it to be one of the most serious of diseases, and it is doubly serious because of the difficulty of curing its complications. It is therefore specially incumbent on us to do our utmost to prevent

infection with it. The disease is not only a destroyer of the health and happiness of the individual woman, often a perfectly innocent one, but has an evil influence on the community. The unfortunate sufferer, who has usually years of moral and physical suffering before her, is apt to fly to drink for a solace, and then becomes a centre of moral infection after, perhaps, ceasing to be one of physical contagion. I believe that much of the difficulty of reclaiming prostitutes is due to the effects of gonorrhœa. As medical men and citizens we are bound to do our utmost to devise and encourage means of preventing gonorrhœa.

Mr. RICKARD W. LLOYD: I will refer to less common conditions occurring in the course of two severe cases of gonorrhœal rheumatism. In one, the patient had a cardiac bruit when I first saw him, so I cannot say whether it existed before the gonorrhœa, and later on there was considerable modification of the bruit, accompanied by the development of symptoms of acute pyæmia, which I attributed to the discharge into the circulation of products of inflammation of the endocardium, and which soon terminated fatally.

In the other case, besides the joints involved, the corneæ became affected by numerous small superficial ulcers, associated with much conjunctival injection. The ulcers completely healed and the patient ultimately quite recovered but with a stiff knee joint.

Dr. MCCANN: I have to thank the members of the Society for the reception given to my paper. I have not described the methods of cultivation, as these will be given in a future communication. As to the occurrence of gonorrhœal arthritis, although I regard most cases as having a pyæmic origin, yet, as the gonococcus has been found by good observers, such as Neisser, in the pus from affected joints, I am compelled to admit that a certain proportion of cases are caused by the gonococcus. I thoroughly endorse what Mr. Keetley has said concerning the general interest of the subject. Every one recognises the great difficulty in treating cases of salpingitis, and it is especially needful that an early diagnosis of gonorrhœa in the female should be made, in order that appropriate remedies may be applied with the least possible delay.

Dr. CLEMOW read a paper on "Some Observations upon the treatment of Entero-colitis in infants and young children," which is published in the front part of the JOURNAL.

The discussion upon the paper was as follows:—

Dr. JOHNSON: It is necessary in treating these cases by irrigation to bear in mind the possibility of accidents such as rupture of the colon. From *post-mortem* experiments it has been deduced that 2 feet is a sufficiently high elevation of

the can in cases in which the colon is softened. In one case in which the can was raised 4½ feet, the colon was ruptured.

Mr. McAdam Eccles: Before employing irrigation, I think we should first take into consideration the situation of the disease, for when the disease is mostly localised to the small intestines, this plan of treatment would be of little or no value. When the pelvis is raised, the length of the intestine must be brought into the calculation, and an elevation of 2 feet would be quite high enough for the can, consistent with safety. I know of two cases in which irrigation was employed for the relief of intussusception, and, in each, rupture of the gut was found at the *post-mortem* examination—subsequent investigation showed that 8 ounces of fluid were ample to distend the large bowel of a child.

The President: In regard to the diet in these cases, I would go further than Dr. Clemow, and should desist from the use of milk in any form for twenty-four hours, giving veal broth in its place. I have never found bread jelly useful in children under two years of age.

The drug treatment depends so much on the conditions that it is not possible to discuss this satisfactorily without occupying too much time; but the use of salol appears to me to be contra-indicated in catarrhal conditions of the small intestine associated with acidity, as in an acid medium the drug is inert.

Irrigation is no doubt the most effectual form of treatment in colitis, and I have found cinnamon water one of the most valuable antiseptics. The inflow of the injection can be recognised by ausculto-percussion of the abdomen and the quantity modified accordingly.

Dr. Clemow: In my experience 2 to 2½ feet is the preferable elevation of the can. When the child is not under an anæsthetic, there is little danger of over-distension, and when an anæsthetic is used, 8 to 10 ounces is the usual amount I employ.

Carcinoma of the Œsophagus.

Mr. Stephen Paget showed a specimen of carcinoma of the œsophagus. He had performed gastrostomy upon the patient. The following are the notes of the case:—

A feeble, emaciated, sallow-complexioned man, age 50, suffering from constant and painful *dysphagia* (fluids, only with difficulty, could be taken and even then regurgitated). *Hæmatemesis*, once. Bad attacks of *dyspnœa*, last fortnight. Paralysis of one vocal cord. No signs of heart or lung disease, or of aneurysm.

Operation.—Vertical incision 3½ in. long, 2 in. to left of

linea alba. Liver and stomach presented in the wound. The peritoneum was sewn all round to the skin. Stomach then drawn forward, and firmly secured by eight or nine silk sutures passed in the ordinary way, all round, exposing an area the size of a half-penny. Two guiding threads were put in and left with long ends. That night patient had more bad dyspnœa, sank rapidly, and died the next morning.

P.M.—A curious long, flat, tough, indurated tract on posterior and lateral aspects of œsophagus 3 or 3½ in. long, with very little thickening of walls of the tube was found. A few very small glands. The rest of the posterior wall of œsophagus, below the seat of disease, was covered with small, superficial erosions. The posterior wall of the trachea was perforated about the fifth and sixth rings, causing an opening about ¼ in. in diameter. No other lesions found.

Ordinary Meeting.—February 7, 1896.

A. SYMONS ECCLES, M.B., President, in the Chair.

Dr. GARROD read a paper on "The Rationale of the accepted treatment of Gout," which is published in the front page of the JOURNAL.

The following discussion took place:—

Dr. THUDICHUM: Dr. Garrod's paper has revived a great many theoretical and practical considerations concerning gout; the relative uncertainty of the latter, leaves a large field to the cultivators of so-called applied chemistry, and they accordingly inundate it with their productions. Many of them are manufactured in German laboratories for so-called physiological chemistry, or experimental pathology, and are conceived by the professor, who, in exchange for his fee, gives to a Russian, Polish, or Hungarian student his latest conception for practical elaboration. The execution is conducted by these children of the East on the novel principle of large profits and quick returns, and when the operations have progressed a little, some romances concerning them find their way into a modern kind of periodical literature called "Central Journals," being mere collections of abstracts from current periodicals of reputation and position. The late Professor Kolbe, of Leipzig, has termed the editors of these Centralblätter "waylayers," because they live on the pillage of other people's work, for which observation he was fined a hundred marks for libel. But this judgment does not remove the stain of immoral appropriation from that kind of press product. The only kind of original matter which these collections of extracts sometimes contain, are the so-called "preliminary communications" on alleged results of in-

quiries which have only just begun. These are mostly left incomplete, and the *preliminary* remains the *only* communication. But even when the "research" ripens into a paper, the contents have mostly, according to the late Professor Henle, a duration of life not exceeding four years on an average. I therefore warn my audience not to accept such communications without the most careful scrutiny; this caution is necessary on the entire field of chemical pathology, but more particularly on that of diabetes and gout. The immediate cause of the group of symptoms which are termed gout, is unquestionably a *chemical* one, and the principal manifestation of the disease consists in the deposition of salts of uric acid in various tissues, which is an effect following merely *physical* laws. In many, particularly severe cases of gout, hands, feet and ears become condensers of the morbid matter, and act as valves of emission for its excess; the most striking examples of this we see in the chalkstones, so-called, which these sufferers pick out of the joints or condyles of the bones of their hands. By the side of urates other products of metabolic action are manifest, and scarcely subordinate to urates in quantity and effect, *e.g.*, *the alkaloids*, which contain ten per cent. of all the nitrogen of the urine; these will yet require much research bearing on gout particularly. Even the very changes of the urates are as yet little understood; in the urinary deposits potash salt prevails, in the gouty deposits in and around joints, calcium salt is in the ascendant; in the urinary deposits, generally including those occurring in gout, the whole of the uric acid is by no means in combination; free may be to the combined as one to five, or as two to five; on the other hand, the free uric acid in these deposits may rise to so high an amount as to be twice the weight, and sometimes more than twice the weight of the whole combined uric acid. On this extremely variable phenomenon, the theory of *the quadriurates* has been based, and a certain *rôle* in the production of gout has been attributed to them. In the inquiry on the production of uric acid calculi in the human bladder, the quadriurates had a certain claim to consideration, but in the discussion of gout they have, as yet, none. When we test the urates and their relations analytically, by most careful scrutiny of all elements concerned, the hypothesis of the quadriurates explodes in two directions; while the exact proportions of combined and uncombined uric acid required by the theory are never met with. These are two extreme variations which destroy the ideal; in one case the amount of free uric acid does not fit the amount of combined by being greatly deficient; in another case the uncombined acid is much in excess of any which

could have been present as quadriurate. The experiments on this subject are all much too fragmentary to solve anything; they are mostly made with one urate only, whereas in nature the combined uric acid is distributed over four bases, two of which are not known to lend themselves to the formation of any quadriurate even in the laboratory, and thus they are not likely to do it in the body.

Other important questions such as the consideration of the isomers of uric acid, of which I have proved the occurrence of one in the early stages of yellow atrophy of the liver, also require elucidation before a final theory is feasible. Dr. Garrod has given a useful survey of the various forms of treatment, and has shown that while some systems have no effect at all, a few do harm, and an opposite series benefit the patient. Thus there can be no doubt that the hot springs or *thermæ* will help a patient to get rid of much of his stock of urates in the limbs and skin, if he will consent to sit in their waters long enough. On the other hand the drinking of the waters is uncertain in its result, it may be injurious, particularly if there be any truth in the quadriurate hypothesis. However, as yet these alleged compounds have not been found in the body, but are mere laboratory products, made under conditions which do not arise in the body. I have made a great number of analyses of urine in connection with this and other questions, and while I assert that such inquiries are useful as pathological guides to treatment, they are only so by great attention to individualisation and to trenchant chemical quantitative analysis. A specific complex of excretory urinary matters, or a definite form and proportion of ingredients, such as certain mere chemists would call "gouty urine," does not exist. In contradistinction to all the minute inquiries which the modern physiological schools in want of subjects capable of producing a sensation, have set on foot, the profession have held the great features of this protean disease steadily before their minds, and have acquired canons for the treatment of its various forms, which dwarf the attempts at finessing engendered by the abstract schools. Here, as in many other matters, "grey is all theory, but green the golden tree of practice."

Dr. ALDERSON: Though much interested in the various theories put forward in support of alternative methods for the treatment of gout, I must express my own adhesion to traditional methods. I firmly believe that bicarbonate of potash is the most effectual solvent of uric acid, and that in colchicum we have an analgesic of the first order, while in later stages iodide of potash and iodic acid are of the greatest value. I should like to hear the opinion of others as to the alleged

dangers of port wine, since I am in the habit of allowing it to my patients during convalescence.

Dr. CAMPBELL POPE: As regards the treatment of gout I think a great distinction should be drawn between an academical discussion and the treatment of a case of gout. What we have to do in practice is not to treat gout, but a person afflicted with gout, a very different matter. It will be found with most, if not all of these patients that there is something going on wrong in their mode or habits of life, or quality of diet, and when this primary condition is removed the gouty remedies in general use will act well. Personally, I have much faith in the bicarbonate of potash, especially in a preventive sense, when taken regularly in doses of gr. xv., dissolved in half a tumbler of water at bedtime. This, with attention to the excretions I have known to prevent recurrence in markedly gouty subjects.

As regards diet, one can observe patients get well on a nitrogenous or a non-nitrogenous diet, but the two must not be mixed. Simplicity is the great object to aim at in diet, and especially in this respect, namely, that if a gouty person wishes to eat meat at a meal, let him do so, with as little admixture of carbonaceous matters as possible; then his uric acid, if he takes plenty of water, will easily pass away from the system.

The underlying factor which accounts for gout attacking certain tissues and organs, is to be arrived at by a study of development. In one set of diseases one layer of the germinal membranes and the tissues which develop from it will be affected, and in other diseases another layer and its derived tissues.

Dr. CLEMOW: I wish to add my quota of thanks to Dr. Garrod for the admirable paper in which he has so exhaustively treated of the subject before us this evening, and at the same time to offer a few remarks upon the relation borne by gout, or perhaps I should more correctly say uricacidæmia, to the production of "migraine." I have been very greatly interested in the various papers which have been published from time to time by Dr. Haig relative to this, and it has appeared to me that there was much to be said in favour of the views he has propounded. At the same time I must confess that my clinical experience, based upon the practical application of his theories, has not proved as satisfactory as I had fondly hoped. I have certainly in some cases seen very considerable benefit follow upon the withdrawal, as far as possible, of nitrogenous articles of diet from the food, an ample allowance of carbohydrates being substituted. In one case in particular, a lady who for several years had suffered

most severely from attacks recurring every fortnight experienced for a time very great relief indeed. The sickness almost disappeared, the intervals of freedom became greatly lengthened, and the headaches were of a much milder character. She has adhered most carefully to the dietary which I prescribed, but I regret to say that in spite of this the attacks are now recurring with increasing frequency and greater severity. In several other cases I have similarly seen much benefit result at first from the adoption of a non-nitrogenous dietary, but there has been no definite cure and after a time relapses have recurred. While admitting, therefore, that there is evidence to lead one to the conclusion that the limitation of the intake of uric acid forming articles of diet may exercise a beneficial influence, I am unable to admit that it will effect a cure. My doubts, too, as to the validity of the uric acid theory in accounting for the production of migraine, have been strengthened by the occurrence of another case in which a lady came under my care for the treatment of obesity and a fattily overloaded heart. She came of one of the most markedly gouty families with which I am acquainted, and was, I think, the worst sufferer from migraine that I have ever met. I placed her, however, upon a dietary from which the carbohydrates were as far as possible excluded, no limitation being placed upon the nitrogenous elements. To my great surprise not only was the obesity reduced, but the attacks of migraine almost entirely disappeared. I could only account for this happy result on the supposition that the headaches, &c., were due to the absorption of toxic products formed in the intestines in the process of decomposition of the carbohydrates. I should like to add a few words as to the therapeutic value of piperazine and salicylate of soda. From the former drug I have seen the most gratifying results in two cases, both ladies, who suffered from very considerable pain in the region of the kidney, recurring daily in the early hours of the morning. I attributed this to the irritation of the kidney substance by the formation and deposition of uric acid crystals during this the "acid tide." Both remain well and free from pain as long as they take the piperazine, but the symptom recurs as soon as it is left off.

The PRESIDENT: I am sure that we are all indebted to Dr. Garrod for his valuable synopsis of the methods now employed in the treatment of gout, but while recognising the skill with which he has marshalled the theories and practice of others, I must express regret that he has not indicated more fully his own views, and I trust that in his reply he will favour us with them, especially as there yet remains great

obscurity and some difference of opinion as to the nature of gout and the *rationale* of treatment. In regard to one form of treatment I may perhaps venture to say that I know something, and in watching the effects of physical exercise, whether taken by the gouty patients themselves or administered to them in the form of massage by others, I have found that the plus excretion of uric acid does not last many days, save when the exercise taken is excessive. Then not only is the quantity of uric acid increased, but that of urea also. An example of this was strikingly afforded in the case of Weston, the pedestrian, for with healthy persons unaccustomed to much exercise, as with gouty and other invalids, we find that excess of uric acid temporarily follows exercise and massage. But what is perhaps important in elucidating the *rationale* of the treatment of gout by massage with or without douches, and also by exercise, is the fact that there are other evidences in the urine of gouty patients of deficient oxidation in the tissues than those afforded by excess of uric acid, and although not yet investigated in a sufficient number of cases to be regarded as established, still the presence of leucomaines in the urine of gouty persons with no increase in the amount of nitrogen excreted seems to point to the existence of chemical conditions leading to gouty symptoms, which are not only indicative of uric acid storage, but rather show that the existence of uric acid in excess denotes the deficient oxidation of nitrogenous matters. I am at present engaged in the study of the incidence of leucomaines in healthy and morbid urine, which, after two years has yielded only those results I have already published, but I trust at some future time that I may be able to show that uric acid is not the only product of tissue waste, nor the only form of toxæmia which bears relationship to gout in its various manifestations. As to the question of diet alluded to by Dr. Clemow in the treatment of migraine, I believe that the betterment following the reduction of nitrogenous matters in the food is due to the relief afforded to the overworked stomach, which careful investigation in such cases will generally prove to be in a condition of muscular enfeeblement and hypochloracidity. For myself I believe that many cases of migraine depend on toxæmia, the result of chemical compounds which may prove to be precursors of uric acid and due to deficient oxidation of nitrogenous matters, whether derived from the tissues themselves or from proteid food stuffs.

As to the value of salicylate of soda, I have, during the last month, seen a case of acute gout of the hand quite cured in the course of two or three days by its employment alone.

Dr. MASTERS: I should like to be clear as to whether we

are discussing this evening the treatment of acute attacks of gout, or the treatment of conditions more or less subacute, which are traceable to an excess of urate in the system. In my own practice of late years, I have not met with many cases of true acute gout, but the various subacute conditions are constantly coming under treatment, and in these I have found Haig's teaching very valuable, as affording at least a working hypothesis upon which a line of treatment can be based very beneficial to the patient. It is very difficult in general practice to carry out a close investigation into the amount of uric acid excreted in the urine, and such investigation to be of any use, must include the examination of the whole amount of urine passed in the twenty-four hours. The most simple test for uric acid is, I believe, that known as Gowland Hopkins', and with this test I myself have obtained results closely corresponding with those published by Dr. Haig.

In the matter of diet experience has shown me that the essential point is that it should be *un*mixed; if this be persisted in, and food that suits the individual patient be chosen, the result will be more satisfactory and constant than when a mixed dietary be allowed, even though each separate article of food may be very plain.

Mr. ATKINSON: I hold that gout, rheumatism, and many other diseases, have a common origin, and hence we must, in searching for a *rationale* for their treatment, proceed on very broad lines. The results of some remedies point very strongly in this direction. For example, bicarbonate of potash is most useful in both gout and rheumatism, but it is equally efficient in bronchitis and influenza. It is an interesting fact, of which no complete explanation has yet been forthcoming, that spirit drinkers are specially exempt from gout, whereas beer and wine drinkers are great sufferers.

Dr. GARROD: I am glad that my paper has been successful in one of its objects, namely, in eliciting the actual clinical experience of members of the Society. I am aware of the valuable researches of our president on leucomaines, and of their possible bearings on the essential pathological factors in gout. Possibly uric acid may turn out to be merely the indicator, while leucomaines may be the real cause.

DIET IN SENILE HEART.—(1) There must never be less than five hours between each meal. (2) No solid food is ever to be taken between meals. (3) All those with weak hearts should have their principal meal in the middle of the day. (4) All those with weak hearts should have their meals as dry as possible.—BALFOUR.

CLINICAL EVENING.

A. SYMONS ECCLES, M.B., President, in the Chair.

Friday, March 6th, 1896.

CASES.

Ludwig's Angina.

Dr. SEYMOUR TAYLOR: I have here a case of Ludwig's angina. The patient is 30 years of age. The onset of his disease was sudden. There were rigors, headache, general malaise, with a temperature of 101° on the first day. On the second day the patient complained of tenderness of the tongue and of the mucous membrane under the tongue. The floor of the mouth was red and sore, and the appearance of the buccal cavity was such as is seen in catarrhal stomatitis. Then the sub-maxillary glands were found both enlarged and tender, and there was brawny swelling which extended from the lower maxilla to the clavicles and sternum. There was nothing in the soft palate to suggest diphtheria nor was there any rash. The œdema has gradually subsided under iodide of potassium. It is now proposed to give the patient iron. The disease appears to have been epidemic in Chiswick and Hammersmith.

Sporadic Cretinism.

Dr. CHARLES W. CHAPMAN: The case I have here is one of sporadic cretinism. The patient is 17 years old. The mother began to notice her to differ from the other two children when she was 18 months old, from which time the patient ceased to grow, while she became more and more puffy.

Both parents are healthy, but the father was a heavy drinker. There are two other healthy well-grown daughters. The patient is essentially infantile as regards her habits; she plays with dolls, and except when being nursed or in the perambulator, she sits on a cushion by the window either looking at the passers by, or playing with toys. The head is 22½ inches in circumference, the anterior fontanelle is widely open, the hair thin and wiry, the nose flattened and the face swollen and puffy with a faint redness of both cheeks, tongue thick; she only emits a grunting sound. She is good tempered, and can be got to smile; skin very dry and cold; there is occasionally some perspiration on the head, the thyroid can be felt. There are large supra-clavicular glands, the arms and legs are straight and about the length of an eighteen months old baby; finger nails flat but fairly

good, toe nails very hard. She has never stood; she has no control over the bladder or rectum.

The next case is one of multiple lipomata. The patient, age 47, was employed as engineer in the Tansa Valley water-works some miles from Bombay. Five years ago he had malarial fever which lasted on and off for five months, during which period he lost three and a-half stones. He was sent back to England as he did not get better. The first growth appeared on the right shoulder four and a-half years ago, and this was quickly followed by others, the only parts of the body now free are those exposed to pressure in riding, &c. Before taking the fever, he had never been ill, and was exceptionally robust. There is no history of syphilis or excess in alcohol. No disease of the internal organs can be detected. The spleen is not enlarged. He is unable to write in the morning owing to a sense of weight in the right arm.

Dr. SEYMOUR TAYLOR: I hope Dr. Chapman will at some future time be able to report the nature of these growths as determined by microscopical examination. I have little doubt myself that they are lipomata.

Dr. ALDERSON: I concur in the diagnosis given by Dr. Chapman and supported by Dr. Seymour Taylor, that the growths are probably lipomatous.

The PRESIDENT: It is, of course, impossible to express any very decided opinion on the nature of these multiple tumours, until, by excision and microscopical examination of one of them (for choice one of the more recently appearing growths), their structure has been ascertained; but looking to the history of malarial poisoning, slight enlargement of the spleen, and the residence of the patient in a paludial district, I think it will probably be found that the tumours are rather of a lymphatic than a fatty nature, and in absence of the lymphatic glands in the usual situations of lymphadenomata or leucocythæmic affections I would venture to suggest that these tumours will prove to be of the nature of lymphangioma. I have seen similar cases in Thessaly associated with malarial fevers; but no microscopical examination could be made under circumstances of campaigning.

Dr. CHAPMAN: I shall be glad to carry out the suggestions made as to microscopical examination, and to report the result to the Society on a future occasion.

[Mr. SWINFORD EDWARDS showed two cases, one of nephrolithotomy and one of litholopaxy. The full report of the former is published in the "Mirror of Practice."]

"*Bronzed Skin.*"

Dr. S. SUTHERLAND: This patient, age 29, is a lady's maid. She was admitted to the St. George's Dispensary on

May 29, 1895. At that time she was suffering from anæmia, great languor, feebleness of heart's action, vomiting, flatus, headache and want of breath on the least exertion, and sighing, yawning and hiccough, and moaning during the night.

The bowels were confined, and there was dimness of vision. The urine contained no sugar nor albumen. Eight years ago she had a bad fall in the street, this was succeeded by serious dyspepsia, which rendered her unable to work for about twelve months. The patches of discoloration of the skin appeared gradually, and were well marked on admission. They are now plainly visible on the frontal bone, right cheek, between the breasts, probably from pressure of the stays; in the front and back folds of the axilla, in the folds of the elbows, the linea alba, folds of thighs, and abdomen in front; over 11th and 12th dorsal vertebræ, below the great trochanter on both sides, and in the bends of the knees. There are also some marks on the fingers. Besides the bronzing, there are some small black spots, four on the chest, one on the right forearm and three on the left arm.

On January 15, 1896, Dr. Rolleston kindly examined her for me, and although declining to give a diagnosis, recommended a trial of the pilules of supra-renal extract. These have been continued up to the present time (six weeks). She had headaches on the vertex after taking the extract, but the vomiting—which before was troublesome—has improved. On the whole, the extract has not done much good.

Dr. ABRAHAM: This case is one of great interest and some obscurity. With the artificial light now at our disposal, the bronzing is so imperfectly to be seen that I would rather withhold my opinion as to its nature.

Dr. CAMPBELL POPE: As bearing upon the different conditions under which bronzing of the skin occurs, I may mention that I have had recently under my care a boy, age 12, who had marked bronzing of the skin, and whose case as determined *post-mortem* was found to be one of splenic anæmia. I hope on a future occasion to bring the full record of this case before the Society.

The PRESIDENT: It is not easy to recognise the extent or intensity of the bronzing or pigmentation in this case by the imperfect light that we have to-night, but judging from the general appearance of the patient, the existence of Addison's disease is not well established, and in view of the successful results which I have seen following the treatment of cases characterised by more marked symptoms of malnutrition with skin pigmentation, I should expect good success to follow the use of the rest cure for this patient.

Early Stage of General Paralysis of the Insane.

Dr. S. SUTHERLAND: I have here a case of general paralysis in the early stage. W. F., a coachman, age 33, admitted August 1, 1895. The cause of the disease was probably sexual excess, exposure to alternate heat and cold, and latterly to alcoholic indulgence. He confesses to have been a very "fast" man before his marriage. Since then, nine years ago, he has had three children. He has evidently been overworked, having frequently to be up very late at night while following his occupation. A few days before admission he noticed for the first time that his speech was affected, but at that time there was no loss of power in the arms. He could drive perfectly well for one month after this date, that is, up to September 4, 1895. Since then he has done no work. By my advice his master has not permitted him to drive again, but instead, has allowed him a handsome pension for life.

On admission, he was very firm on his legs, but he stumbled slightly on turning round suddenly. The right pupil was larger than the left. There was a marked softness of speech, with that peculiar slurring of the linguals and labials so characteristic of this disease. The tongue was fairly steady, but slightly tremulous at the tip. [He has forgotten to come to the dispensary more than once on his right day, and to sign certain papers for his club, but his memory is only slightly affected.] He says now he feels as well as he ever did. His lungs are healthy. The second sound of the heart is slightly accentuated. The knee jerk is in this case neither increased nor lessened, but appears to be perfectly normal. I commenced with the old-fashioned treatment of mercury and iodides, but soon abandoned these drugs for iron, which has temporarily done much good.

The case is very interesting to me as I seldom see general paralysis in the first stage. I need not say that the prognosis is hopeless.

Dr. SEYMOUR TUKE: This case is of extreme interest on account of the rarity with which we have the opportunity of seeing these patients at so early a stage. I have myself only come across two of such, and I was not able to trace their subsequent history. In this man each separate symptom is but slightly marked, but taking the whole group together, there can be no doubt that the diagnosis is correct. I have been particularly struck by the number of instances in which general paralysis has been preceded by syphilis, which had been neglected or badly treated, and I should be glad to hear from Dr. Sutherland whether the syphilitic factor can be excluded in this case.

Dr. SEYMOUR TAYLOR: The knee jerks in this case have been described as normal, but they appear to me to be exaggerated.

Dr. ALDERSON: I feel indebted to Dr. Sutherland for showing us this interesting case, and to have had the privilege of testing the symptoms of the patient, for it is in the incipient stage that the disease is so likely to escape recognition. I thought I knew something, if not all, about general paralysis of the insane, but I fear I should hardly have recognised the disease in this man, for his speech is comparatively good, the trembling of the lip is absent, and that of the tongue not very apparent; he pronounced artillery distinctly, he hesitated at royal artillery, and "Biblical Commentary." He is younger, more healthy than the patients in whom I have recognised the disease, and he had no grandiose ideas. These patients are supposed never to recover. I had a patient, a lady, who had the disease, even tremors and exalted ideas for the first time at 64; after a few months she got apparently well; the symptoms, however, reappeared in two years; but again she recovered, the symptoms subsequently reappearing in three years. She is still living, the symptoms are now obscure, and except occasionally, almost imperceptible. I conclude that Dr. Sutherland has no doubt as to the correctness of the diagnosis, it would be interesting to know his prognosis and its causes.

Dr. SUTHERLAND: In reply to Dr. Tuke I may state that the patient had four soft chancres sixteen years ago, but that they were not succeeded by any eruption or other secondary symptoms. With regard to the question of delusion, the disease is not yet sufficiently developed for such characteristics to have shown themselves.

Cardiac Bruit.

Dr. A. L. SCOTT: This patient, age 28, is suffering from a cardiac bruit. I first saw him about 7 years ago, when he had an attack of subacute rheumatism. He had had three attacks of rheumatic fever about three years previously. When I saw him the condition of the heart was practically the same as now, and seemed to cause him no inconvenience, and I only discovered it accidentally. He was at that time a baker's assistant, and was required to carry heavy sacks of flour, and on one occasion strained himself by slipping with a sack on his shoulder. I have not seen anything of him since then till quite recently, but he tells me that he has been able to do his work (he has been a painter of late) without any difficulty, except occasional pain over chest.

Present condition.—Heart hypertrophied, apex beat outside

nipple line, diffused; in second right intercostal space there is well marked pulsation, with loud bruit and thrill; *harsh systolic* bruit at apex and double murmur over aortic valves. The left radial pulse stronger than the right, and water-hammer in character.

Mr. BRINDLEY JAMES: Dr. Scott's case of cardiac bruit recalls to my own remembrance a similar case, the obscurity of which, in the first instance, caused no little perplexity. My assistant at the time treated the case for muscular rheumatism. The patient in question had come complaining of pain in the muscles of the right arm, radiating from the right pectoral region over the deltoid to the forearm. The history was simple enough. The patient, while engaged in driving a hard-mouthed horse, had suddenly felt "something give way" in the right pectoral region, or, as he described it, near the right shoulder joint. From that time he experienced dull pain of an aching character in both arm and forearm, in consequence of which he attended at my house and consulted my assistant, who deemed the case one of muscular rheumatism, and prescribed for him accordingly. No benefit however accruing, the patient solicited my attendance at his home, and I found him evidently suffering great pain. I noticed that his pulse was *smaller* on the right than on the left side; and on further proceeding to examine his heart I found aortic bruit, and also a pulsating tumour in the second right inter-costal space near the sternum. This latter feature of the case was conclusive, clearly indicating an aneurism of the ascending aorta. The case on the whole presented some similarity to that quoted by Dr. Scott; but I may recall here that on examining the latter case I found kindred symptoms of cardiac lesion present, but without tumefaction or pain.

Dr. SEYMOUR TAYLOR: In considering this case we find, in addition to the cardiac bruits, very strong evidence of aneurism, viz., inequality of the radial pulses, cardiac displacement downwards and outwards, characteristic thrill, pain, and certain pressure signs, such as inequality of the pupils. Thus the great cardinal signs of aneurism exist, except that of tumour, which may be expected to develop later. I observe in this case very marked local thrill on palpation which is evidence that there is not yet any considerable amount of deposition of fibrin in the sac, and, in so far, the prognosis may be considered as more unfavourable. Probably the innominate artery as well as the first portion of the aortic arch are involved. As a matter of experience it may be said that such cases, when the environment is favourable, do very well, and life may be prolonged for many years.

Salivary Fistula.

Mr. BIDWELL: This man, age 45, was sent to me in October, 1895, by Dr. Campbell Pope. In August last, an abscess formed over the right parotid gland. This was opened, and a quantity of fœtid pus was evacuated. After this a salivary fistula formed at the wound, and a large amount of saliva was discharged at each meal. An attempt was made to pass a probe up Steno's duct, but was unsuccessful.

The patient was accordingly placed under chloroform and a probe passed down the duct as far as possible, the original wound in the cheek was then enlarged and the end of the probe also directed down. The end of the probe was then pushed through, and left *in situ* for four days. It was afterwards withdrawn and a piece of silk-worm gut passed through instead and left in for ten days. When this was withdrawn the wound in the cheek healed up and no saliva passed for some two or three days when it again began to pass. A silk suture was then passed through the duct and left in for a fortnight, this produced a good deal of suppuration. After it was withdrawn no saliva passed from the fistula for about a week, but then a small quantity began again to flow. A probe was therefore passed once a week for about six weeks, and for the last two months no saliva has passed from the wound.

Remarks.—This case seems to show that some suppuration is necessary in order to establish a satisfactory channel for the saliva. At the first operation silk-worm gut was used to keep the new channel patent, but since this produced no suppuration, the channel evidently closed soon after its withdrawal. When, however, a silk thread was used, suppuration ensued and a permanent channel was established. This case shows, also, the necessity of making a transverse incision when opening any abscess in the region of Steno's duct.

Tumour of Tongue.

Mr. BIDWELL: This girl, age 14 years, has a small tumour in the left half of the tip of the tongue. She has noticed some swelling in this situation for the last nineteen months. It gets bigger at times, and then shrinks again after small white spots have appeared on the surface. There is now a tumour to be felt about the size of a bean in the substance of the tongue; on the surface there are several dilated vesicles to be seen, but no ulceration. She has been treated both with mercury, iodide and cod liver oil without producing any effect.

I consider that the case is one of adenoma of the tongue,

and the vesicles seen on the surface are due to lymphatic obstruction. The presence of these vesicles has led many writers to describe these growths as lymphangiomata, but I think that microscopic examination will show that its nature is adenomatous. I recommend the excision of the tumour with scissors.

Gummata about both Elbows.

THIS woman, aged 49 years, is suffering from rather large gummata, one below the right elbow, the other above the left elbow in the substance of the lower end of the humerus.

She first noticed gummata two years ago, and previously she had had several tumours on the scalp, collar bones and chest. They all subsided under treatment with iodide of potassium.

These gummata have existed for about six months, and at one time nearly completely disappeared under iodide, but unfortunately she discontinued the treatment, and the swellings reappeared; she has now only just recommenced the iodide.

This case is interesting, because the interior of the bone is evidently affected by the disease, and there is always a risk that such cases may undergo spontaneous fracture, as occurred twice in a man whom I showed to the Society two years ago.

Mr. MCADAM ECCLES: It struck me on a cursory examination, that these nodules might be tuberculous. I should, therefore, be glad to hear from Mr. Bidwell further evidence in favour of their gummatous origin.

Mr. BIDWELL: The tumours are undoubtedly gummatous. The patient has passed through an attack of syphilis, and has had gummata elsewhere which have yielded to specific treatment.

Section of Rodent Ulcer.

Mr. MCADAM ECCLES: The patient, age 90, from whom the growth, sections of which are beneath the microscope, was removed, was shown by Dr. Alderson and myself, at the last Clinical evening of the Society. There was a small growth of some months' duration on the right side of the nose. It had slightly ulcerated, but had healed over. This condition is shown well in the sections as a very much thinner layer of epithelium than elsewhere.

It will be noticed that the carcinoma lies altogether below the surface epithelium, that the cells of the growth are more spheroidal and squamous, and that there are practically no cell nests.

SPECIMEN SHOWN BY DR. SEPTIMUS SUNDERLAND.

A BROAD-BASED glandular polypi, with portion of cervix uteri, removed recently (Feb. 28, 1896). The polypus had collapsed, much mucoid fluid having escaped.

History.—Mrs. S., age 48; sent me by Dr. Horton. Married, four children, last born thirteen years ago. Catamenia regular till two years ago; since then scanty, appeared only five or six times at intervals of months, but last period, January 5, very free. Discharge, yellowish, for past three years, sometimes tinged with blood and always offensive. Pain:—four months ago sudden attack of pain in the lower abdomen, lasting several hours, since then something protruded from vulva when standing, and discharge became "lumpy" and very fœtid; backache very severe. Scalding of thighs by discharges. Patient is getting thinner.

The specimen shows a portion of cervix uteri with cystic degeneration internally, amputated circularly, and two polypi with broad bases growing from it; one of these was irregular in shape, as large as a hen's egg, about three inches long, and grew from the internal wall of the cervix, its attachment extending half way around the circumference, it contained many dilated cysts, and has now collapsed very much as a large quantity of glairy fluid has escaped from two rents. The other polypus was as large as a small walnut, and was attached to about one-fourth of the circumference of the internal cervical wall on the opposite side.

The specimen shows well the origin of the polypi from cystic degeneration of the cervix. The polypi could not have been radically removed without the circular amputation of the cervix. About three-quarters of an inch of the latter was removed, the edges of the external mucous membrane were sewn to the edges of the cervical canal to form a covered stump, which healed by first intention.

IN ACUTE GASTRO-ENTERITIS OF INFANTS bismuth becomes particularly efficacious when associated with calumba root, grains xv., made into an infusion with ʒiiss. of water; to this when filtered is added subnitrate of bismuth, grains xlv. and syrup of bitter orange peal, ʒss. Dose: a teaspoonful every two hours.—TRABANDT, *La Presse Méd.*, December, 1895.

The Mirror of Practice.

A CASE OF NEPHROLITHOTOMY.

By F. Swinford Edwards, F.R.C.S.

The patient, the notes of whose case are here recorded, was shown at the March meeting of the Society, also the somewhat unique calculus removed, a woodcut of which is added.

W. L., age 22, was admitted into St. Peter's Hospital with the following symptoms:—Right lumbar pain, usually fixed, though it occasionally radiates into groin; texsis of right thigh. Some degree of pain is almost always present, but at times it becomes acute. He passed blood two years ago, which continued off and on until nine months since. Hæmaturia was often the outcome of exercise. He is fairly comfortable when at rest. Usually lies on his back or on the affected side, though he can lie on the other. When he has attacks of pain there is increased frequency in micturition. Has no pain on palpation or percussion. Urine—acid 1024. Marked albumen and a few pus cells. No crystals.

With these symptoms pointing to renal stone, I considered that an operation was advisable, accordingly on January 15, 1896, I exposed the kidney by the ordinary transverse lumbar incision. On manual examination it was at once clear that a stone was present. It appeared to lie towards the anterior surface at about the junction of the kidney substance with the pelvis. I divided the thin layer of renal tissue covering the calculus, partly with the knife and partly by means of the finger nail and extracted it.

The stone, which weighs 60 grains, is a beautiful specimen of oxalate of lime. It is peculiar in that from one end projects

a mass of large, sharp and whitish crystals, the general colour of the calculus being of a reddish brown. I imagine that the stone was embedded in the renal tissue, whilst the bunch of crystals just referred to, projected possibly into a calyx. After viewing this stone, one cannot be surprised that pain was a marked feature in the case; hæmorrhage also, no doubt, would have been present to a greater extent, had the stone not been firmly fixed.

After well washing out the wound with sublimate solution, and restraining some little bleeding with gauge pressure, I closed the wound, leaving in a rubber drain down to, but not into, the kidney.

On account of pain that evening the house surgeon, Mr. Mursell, gave him two injections of morphia subcutaneously.

On the following morning the temperature was 99·8, he was feeling comfortable and taking fluid nourishment well. The dressing was soaked with urine. Not having passed urine *per urethram*, a catheter was passed at 11.30 a.m., the urine withdrawn being clear and free from blood.

As to the subsequent history:—Voluntary micturition was re-established on the twelfth day. This incapacity is, as far as my experience goes, an unusual feature in these cases. The temperature went to 101·2 on the evening of the second day after the operation, but soon dropped to normal and remained there until the twenty-sixth day, when it rose to 102·6, and on the following day to 103·6, due to an attack of influenza, which he had in a typical form, with the exception of a little lumbar tenderness; the patient is now quite well.

A CASE OF MOBILE KIDNEY TREATED BY NEPHRORRAPHY—CURE.

By F. Swinford Edwards, F.R.C.S.

Rosalie H., age 28, presented herself amongst my out-patients at St. Mark's Hospital, thinking she had some affection of the bowels, as she had constant pain on the right side of the abdomen, accompanied by constipation. Moreover, some time previously she had been treated in Germany for intestinal obstruction, when her symptoms were identical with those of which she now complained.

After going carefully into the case, I came to the conclusion that her trouble was due to a loose or movable kidney, and so sent her into the West London Hospital, with a view to operation. On admission she gave the following history:—

Since 13 years of age, has been constantly ailing, chiefly with pain in the right side of the abdomen, often accompanied with sickness, which was put down to dyspepsia and, for which she was treated in University College Hospital, four and a-half years ago. Seven years ago she went to Pyrmont, in Germany, to drink the waters, which improved her for a time. Two and a-half years ago she went again, when Dr. Höllsher diagnosed a floating kidney, and advised her to wear a belt, at the same time sending her to consult a professor at Göttingen. This doctor examined her twice—once under chloroform—and said her symptoms were due to impaction, and not to loose kidney. She then came under Professor Ebstein, under whom she remained in hospital for four weeks, and was treated with enemata of poppy-seed oil, with the result that she remained practically well for twelve months.

Present symptoms.—Right lumbar pain, which shoots up the side of the chest to the shoulder, and is increased by walking or standing, but relieved by rest in the horizontal position. When the pain is severe it is accompanied by nausea, and sometimes vomiting. During the acute attacks, which last from a half to three hours, the pain is of a stabbing character. She does not remember ever having had any injury or strain. Has always been of a costive habit, for which she has taken countless aperients and enemata. Palpation is not painful. The kidney is difficult to make out, as her abdomen is well covered with fat.

Under chloroform I thought I could make out the kidney at the junction of the umbilical with the right lumbar and inguinal regions, which on pressure disappeared, appearing to slip back under the ribs. The diagnosis of abnormal mobility of the kidney being confirmed, the patient was subjected to operation on January 13 of this year, in the presence of her medical attendant, Dr. Blok.

Ether being administered, the kidney was exposed by a horizontal incision in the lumbar region. It was found under the eleventh and twelfth ribs, and was abnormally movable—moving up and down about its own length with each act of respiration. As to size, if anything, it was a trifle small.

Two silk sutures were passed through the substance of the kidney, about an inch apart, and including quite this amount of renal tissue. They were then passed through the lumbar aponeurosis on either side, tied and cut off short. The wound was closed with silkworm gut sutures, no drain being inserted.

There was a slight rise in the temperature the day following the operation; viz., to 99·8, after which, fell to normal, and remained there. The wound was dressed for the first time a week after the operation, when the sutures were removed, as union was complete.

Sixteen days after the operation she was allowed to exchange her bed for the couch, and was sent home on February 5 with instructions to lie down as much as possible for another couple of weeks, and, above all, to avoid all jolting or straining.

I saw her last a day or two ago, *i.e.*, ten weeks since the operation. With the exception of some ovarian trouble, and which has now subsided, she has remained quite well, and has entirely lost all her old lumbar pain and dyspeptic symptoms.

To insure a comfortable and daily action of the bowels she is taking a laxative iron pill, viz., ferri. sulph. exsic. gr. j., aloin gr. ss., ext. cascaræ sag. gr. j., ext. gent. ad. gr. v.

The interest of the case lies chiefly in the fact that her dyspeptic symptoms instead of being due to gastro-intestinal disease, were to a great extent reflex and dependent upon abnormal mobility of the kidney.

I account for the improvement noticed after her stay in hospital at Göttingen by the prolonged rest in bed, though no doubt, if she were then suffering in addition with obstruction, the relief of this symptom by oil enemata must have largely contributed to the result obtained.

Although it is yet early to estimate the final result, I think it not unlikely that the cure will be a permanent one, as care was taken to get a very firm hold of the kidney substance by the two stout silk sutures employed.

A CASE OF FŒTAL PERITONITIS LEADING TO INTESTINAL OBSTRUCTION; ENTEROTOMY; DEATH IN TWENTY HOURS.

By W. McAdam Eccles, M.S.Lond., F.R.C.S.

Assistant Surgeon to the West London Hospital, and to the City of London Truss Society.

Intestinal obstruction of congenital origin is a deeply interesting object, and every case is, I think, worthy of record. The causes which most frequently act are: (1) Meckel's diverticulum; (2) some malformation, or arrest of development of a part of the alimentary tract, particularly the rectum; (3) adhesions, the result of fœtal peritonitis. The following case is an example of the last condition.

It is the rule to find at birth the large intestine filled with semi-solid dark meconium, and while this is occasionally in

part extruded even during the passage of the child *per vias naturales*, especially in a breech presentation, the bulk of it is voided *per anum* within the first few days of life, a motion not infrequently appearing an hour or so after birth. That meconium should be vomited is a very rare condition, but this is what occurred in the following case.

A male infant was admitted into the West London Hospital under my care, when only eight hours old, owing to persistent vomiting from birth. It was a full term child, the firstborn of its parents, whose ages were, the father 24 years, the mother 23. The father was a healthy man, and from him could be obtained no history or evidence of either gonorrhœa or syphilis.

The mother had suffered from what was said to be scarlatina in the early months of pregnancy, and there was a doubtful history of a specific vaginal discharge soon after marriage. There was no suspicion of syphilis, and she had not been exposed to cold or wet, as far as she could remember, while gravid. Her labour was natural. No member of either the father's or the mother's family had been the subject of any congenital deformity.

The little patient had been vomiting a slimy, dark coloured substance having all the characters of meconium ever since birth. Nothing had been passed from the bowel through the natural exit. When I saw the infant a short while after its admission, it still continued to vomit, and what was very serious, was that it was nearly suffocated by attempting inspiration with the mouth full of vomited material, which also gushed out through the nostrils.

The child was carefully examined. A very perfect anus was present, and into this the little finger could be introduced for at least one and a half inches without meeting any obstruction. There was nothing upon the examining finger but a little mucus. A probe and a soft catheter could also be easily introduced for some distance further. This negatived almost conclusively the idea that there was an imperforate rectum. Palpation of the abdomen, which was slightly distended, failed to give evidence of any tumour. The percussion note was everywhere resonant. The child showed some signs of distress, but was not restless. It had passed some urine about one hour after birth. Its temperature on admission was 97·4°F. A few spoonfuls of milk given were at once rejected.

As the child continued to vomit it was determined to explore the abdomen, as giving the best chance for the frail life. An incision was made as for left inguinal colotomy. The sigmoid flexure was found to be quite empty, and the

finger, when passed toward the right side of the abdomen, encountered adhesions and coils of intestines matted together. As a very distended loop of small intestine presented, it was stitched to the abdominal wound and immediately opened. Some ounces of rather liquid meconium escaped.

The child for some hours after the operation seemed much relieved; all the vomiting ceased, and the stomach retained small quantities of milk and stimulant. The patient however, gradually sank and died twenty hours subsequently to returning to the ward.

A *post-mortem* examination revealed almost universal adhesions, especially well marked in the right inguinal region. The lower part of the ileum in this place appeared to be much kinked—in fact this was the seat where probably obstruction occurred, for the whole of the large intestine was empty.

Fœtal peritonitis is an important condition since it so commonly leads to adhesions. I have elsewhere* alluded to it as a cause of internal strangulation by bands of adhesions in the sacs of congenital herniæ, and of arrest in the descent of the testes. In this case it had produced such extensive peritonitic adhesions that the child was born only to succumb within a few hours.

It is interesting from a physiological point of view that *vomiting*, and that of a persistent character, such as is the outcome of intestinal obstruction, should have been in evidence so soon after birth. Nothing is perhaps so exhausting in an infant as continued vomiting, which in such a number of cases proves fatal.

Reviews and Notices of Books.

THE PRACTICE OF MASSAGE.†

Dr. Symons Eccles has in the volume before us succeeded in producing a treatise on massage, which will take the position of a classic. We know of no publication of the kind in which the subject is dealt with in so scientific a manner. Indeed, had the book been described under the title of the "Science of Massage," the description would have been just as correct

* St. Bartholomew's Hospital Reports, vol. xxx., 1894, p. 91.

† "The Practice of Massage; its Physiological Effects and Therapeutic Uses," by A. Symons Eccles, M.B.Aberd. London and New York: Macmillan & Co., 1895.

as that under which it has been issued. The first part of the volume is devoted to a full, detailed account of the manipulation and mode of applying general massage, in which reference is made to massage of all the various regions and parts. The author next discusses the physiological effects of the process, and here the reader is made acquainted with some interesting facts in connection with the subject, showing clearly, from a physiological point of view, how highly useful massage may become as a remedial agent. For the most part the rest of the book is taken up with the discussion of those forms of disease which, in the author's experience, have been benefited by this method of treatment. In these pages, the statements in respect to the efficacy of the treatment are, to a large extent, dealt with in a general sense, and the author's case books have been only laid under contribution when some typical or unusual instance of the success of the treatment has been required for the more perfect elucidation of the text. But here we may observe, that the value of the book would have been increased, if the records of more cases had been added to show the useful results which massage in practised hands is capable of producing. Those which the author has incorporated in his book, are for the most part extremely interesting, so much so, that we are bound to confess to a feeling of regret, after the perusal of the volume, that a freer use of his case books had not been resorted to. The work is written in an attractive style; it is, therefore, pleasant reading, and for the reasons above stated, it can be cordially recommended as a valuable contribution to the subject of which it treats.

A HISTORY OF THE CHRONIC DEGENERATIVE DISEASES OF THE CENTRAL NERVOUS SYSTEM.*

THE great majority of a profession, the members of which have much work and small leisure, have but little time to devote to the consideration of the past history of the diseases they are called upon to treat. They turn rather to the elucidation of problems still unsolved, and to the perfection of the treatment of those maladies with which they are more frequently brought into contact. Yet there is a fascination in

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* "A History of the Chronic Degenerative Diseases of the Central Nervous System," by T. K. Monro, M.A., M.D., Assistant Physician, Royal Infirmary, and Pathologist, Victoria Infirmary, Glasgow. Glasgow: Alex. MacDougall, 1896. (Price 6s. 6d.)

the tracing back of a disease from the position which it now occupies to the period when certain groups of symptoms, recurring time after time, struck our predecessors in the paths of science as more than mere coincidences, and led them to the conclusion that they were manifestations of definite pathological conditions.

Dr. Monro has evidently fallen a victim to the alluring spells of this fascinating retrospection, and in his "History of the Chronic Degenerative Diseases of the Central Nervous System" he gives us an exhaustive and most interesting account of the history of the diseases with which he deals.

His work, it is needless to say, has a special value for the neurologist, by whom it cannot fail to be regarded as a useful and practical contribution in respect to a hitherto unexplored field of neuropathic research.

THE LIBRARY OF THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

BOOKS RECENTLY RECEIVED.

Presented by Dr. MACLEOD YEARSLEY.

Pavy's Physiology of the Carbo-hydrates.
Roger Williams's Diseases of the Breast.
Edmund Owen's Manual of Anatomy for senior students.
Bennett's Essay on Diphtheria.
Temperance Hospital Reports.
Johns Hopkins Hospital Bulletin.
Brooklyn Medical Journal.

Presented by THE AUTHORS.

The Practice of Massage, its Physiological Effects and Therapeutic Uses, by A. Symons Eccles, M.B.Aberd., &c. London: Macmillan & Co., 1895, pp. 377, price 7s. 6d.

On Consumption, by J. Edward Squire, M.D.Lond., 1895.

Index of Medicine, by Seymour Taylor, M.D., M.R.C.P., &c. London: Smith, Elder & Co., 1894.

An Index of Surgery, by C. B. Keetley, F.R.C.S. Fourth Edition. London: Smith Elder & Co.

Presented by Dr. F. BUCKLAND.

The Lancet for the years 1888, 1890, 1891, 1892, 1893 and 1894 (twelve volumes bound).

Presented by Mr. PERCY DUNN.

Wintering in Egypt, by Arthur J. M. Bentley, M.D. 1894.
The Mineral Waters of Harrogate, by T. Liddell, M.D. 1893.
Refraction of the Eye, by Stanford Morton, fourth edition. 1891.
Modern Developments of Harvey's Work, by Lauder Brunton, M.D. 1894.
The Hunterian Oration, by J. W. Hulke, F.R.S. 1895.
The History of the Cholera Controversy, by Sir George Johnson, M.D. 1896.
The Mechanism of the Human Voice, by Emil Behnke, ninth edition.

Exchanges.

Clinical Journal, Therapeutic Gazette, Birmingham Medical Review, Edinburgh Medical Journal, The Practitioner, Glasgow Medical Journal, The Australasian Medical Gazette, Bristol Medico-Chirurgical Journal, Quarterly Medical Journal, Northumberland and Durham Medical Journal, Liverpool Medico-Chirurgical Journal, British Gynæcological Journal, Middlesex Hospital Reports, Journal of Pædiatrics, The New York Medical Journal.

The British Medical Journal from 1870 to 1895, and The Lancet from 1870 to 1887, and also for 1889 and for 1895 are *wanted* in *bound* volumes to complete the series.

The following have been purchased:—
Baldy's Gynæcology.
Gould's Medical Dictionary.
Quain's Dictionary of Medicine (2 vols.)
Martindale and Wescott's Extra Pharmacopœia.
Keen and White's Surgery (2 vols.)
Neale's Digest.
Neale's Digest Supplement.

A pair of handsome sets of bookshelves, each 8 ft. high by 3 ft. 6 in., have been made and fitted by Messrs. Chamberlen Bros., the eminent builders, and presented by them to the Society.

BOOK CLUB.

This is now in operation. Mr. H. K. Lewis has met our requirements in a considerate and liberal spirit, and we are able to offer membership of this Club on the terms of 11s. 6d. each to members of the West London Medico-Chirurgical Society. Through it the newest books can be obtained direct from Mr. Lewis's, 136, Gower Street, close to the Metropolitan Railway Station.

The Library Room is open every Tuesday, Wednesday and Friday afternoon, when books may be referred to, borrowed or returned.

THE LIBRARIAN.

The following gentlemen have been elected Members of the Society during the past quarter:—

As Honorary Members:—

(1) Sir JOSEPH LISTER, Bart, F.R.S.
(2) Professor BURDON SANDERSON, M.D., F.R.S.

Jan. 3, 1896. (3) LEONARD T. DOBSON, M.D.Lond., 65, Shepherd's Bush Road, W.
,, (4) C. J. HARRISON, M.B., B.S.Lond., 16, Rosetti Mansions, Cheyne Walk, Chelsea.
,, (5) H. J. CUTHBERT LOCKYER, M.R.C.S., L.R.C.P.Lond., Kensington Dispensary, Kensington, W.
,, (6) ERNEST SNAPE, M.D.Brux., 41, Welbeck Street, W.
Feb. 7, 1896. (7) ERNEST C. BAKER, M.B., F.R.C.S., 5, Gledhow Gardens, S. Kensington.
,, (8) LAWRENCE BIDWELL, R.N., L.R.C.P., M.R.C.S., H.M.S. "Collingwood," Mediterranean Station.
,, (9) ERNEST WILLIAM BLISS, M.R.C.S., L.R.C.P., St. Marylebone Infirmary, Notting Hill, W.
,, (10) JEAN DARDEL, M.D.Paris, Aix-les-Bains, Savoy, France.
,, (11) H. SCOTT-ELLIOTT, M.R.C.S., L.R.C.P., the Hospital for Women, Soho Square, W.
,, (12) Brigade Surgeon Lieut.-Col. FRANCIS HOWARD, M.D., 1, Alma Terrace, Kensington, W.
,, (13) J. D. MALCOLM, M.B., C.M., F.R.C.S. Ed., 13, Portman Street, W.
,, (14) C. STORMONT MURRAY, M.R.C.S., L.S.A., 85, Gloucester Place, Portman Square, W.
,, (15) E. PERCY PATON, M.S.Lond., F.R.C.S., 84, Park Street, W.
,, (16) THOMAS PHILLIPS, M.R.C.S., 124, Harley Street, W.
,, (17) TRAVERS R. M. SMITH, M.D., B.Ch.Dublin, 13, Kilburn Park Road, N.W.

Feb. 7, 1896. (18) A. H. TUBBY, M.S.Lond., F.R.CS., 25, Weymouth Street, W.

" (19) FRANCIS WHITAKER TUNNICLIFFE, M.D. Lond., M.R.C.P., 48, Upper Berkeley Street, W.

Mar. 6, 1896. (20) OLAF KLOSTER, M.B., C.M.Ed., 55, St. George's Square, Regent's Park, N.W.

" (21) C. F. BAILEY, M.D.Lond., 35, Highbury Grove, N.

" (22) F. R. WALTERS, M.D.Lond., M.R.C.P., 60, Welbeck Street, W.

" (23) GEORGE STOKER, M.R.C.P., L.R.C.S.I., 14, Hertford Street, Mayfair.

" (24) HERBERT ANNESLEY ECCLES, M.D.Lond., Greystoke, Upper Norwood, S.E.

" (25) FRANK G. WALLACE, M.B., B.C.Cantab., 50, Earl's Court Road, W.

" (26) M. H. SPENCER, M.D.Cantab., 4, Maxilla Gardens, N. Kensington, W.

" (27) J. HENRY CHALDECOTT, L.R.C.P., Madgehill, Hanwell, W.

" (28) EDWIN MELLOR LIGHT, M.B., B.C.Cantab., 2, Wilton Place, Belgrave Square, S.W.

" (29) W. H. C. STAVELEY, F.R.C.S., 13, South Eaton Place, S.W.

" (30) EDWARD C. COTTERELL, F.R.C.S., 5, West Halkin Street, Belgrave Square, S.W.

" (31) WALTER HYSLOP JESSOP, M.B., F.R.C.S., 73, Harley Street, W.

" (32) W. J. TYSON, M.D., M.R.C.P., 10, Langhorne Gardens, Folkestone.

" (33) P. J. FREYER, M.D., M.C.H., Q.U.I., 46, Harley Street, W.

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" (37) SAMUEL HYDE, M.D., M.R.C.S., Lismore House, Buxton.

" (38) THOMAS HILLIER CHITTENDEN, M.R.C.S., 32, Ovington Square, W.

" (39) THOMAS WATTS EDEN, M.D., M.R.C.P., 21, Bentinck Street, W.

" (40) FRANK H. LOW, M.B., C.M.Aberdeen, 12, Sinclair Gardens, West Kensington Park.

Mar. 6, 1896. (41) ROBERT CRAIK AUKLAND, M.R.C.S., 13, Saville Row, W.

,, (42) OWEN PRITCHARD, M.D., 37, Southwick Road, Hyde Park, W.

,, (43) JOHN DESMOND MORTIMER, M.B., F.R.C.S., 22, Cheyne Gardens, Chelsea, S.W.

POST-GRADUATE TUITION IN LONDON.

BY C. B. KEETLEY.

IT was proposed to give in each number of this JOURNAL a full notice of the arrangements for post-graduate study in London, up to date. Strict impartiality was aimed at, and it was hoped that the secretaries and deans of hospitals and schools would supply us with the necessary information. They have responded with a readiness and a courtesy which we are glad to acknowledge. And this article, which has no counterpart in any other journal, has been well received and well noticed.

We give a just priority to the *London Post-Graduate Course*. Directed by a committee (President, Mr. Jonathan Hutchinson), it combines the following hospitals, viz., the Ophthalmic in Moorfields; the Skin, Blackfriars; Bethlem; and the London Throat, Great Portland Street; with King's College Bacteriological Laboratory; the Parkes Museum of Hygiene; the Cleveland Street Infirmary, and the Institute of Preventive Medicine. There will be a "vacation course" in April, and the "summer term" in May and June. Courses can be taken out separately, and the fees are £1 1s., £2 2s. and £3 3s. at each institution, according to the number of lectures, &c. This does not include hospital practice, for which are charged fees extra, but moderate. The prospectus for 1896 is ready and may be obtained of Dr. Little, 32, Harley Street, W.

Steps are being taken to erect a Central Institution or "Polyclinic" for the use of the *London Post-Graduate Course*.

Charing Cross Hospital. — Weekly lectures and clinical demonstrations, arranged in three courses of ten each. Two of these courses are given during the winter session, and one during the summer. Fee £1 1s. each course. Thursdays at 4 p.m. Beds, 180; in-patients over 2,000. Registered

medical practitioners not requiring a certificate of attendance, are admitted without fee to the practice of the hospital, on application to the dean.

The next course of Post-Graduate lectures will commence on Thursday, May 7. Hon. Secretary, Dr. Willcocks.

West London Hospital.—Weekly demonstrations arranged in three courses of ten lectures each. Wednesdays at 5 p.m. Fee £1 1s. each course. Fees for hospital practice, £2 2s. per quarter extra, or £5 5s. per year, including all lectures and demonstrations. A class in bacteriology will be formed during summer. Instruction in anæsthetics by the anæsthetists. Hours of visiting and operation, 2 to 5 daily. Beds 101; in-patients, 1714. When the new wing, nearly finished, is opened, the hospital will contain 173 beds. Clinical clerkships and dresserships. Special departments for diseases of women, eye, ear, throat and nose, skin and for orthopædics. Hon. Secretary, Mr. Bidwell. Prospectus on application. (See advertisement.)

Royal Ophthalmic Hospital, Moorfields.—May and June course in "London Post-Graduate Course." Monday at 1 p.m., Wednesday at 8 p.m. Fee £2 2s.; fees for practice, perpetual, £5 5s.; six months £3 3s.; only members of the Post-Graduate Course may join practice for one month for £1 1s. Clinical assistancies. Clinical work begins at 9 a.m. Operations daily 10 to 1 p.m. Ophthalmoscopic and other classes, three courses yearly at 7.30 p.m, next begins in June. Beds, 100; in-patients, 2,184. Secretary, Mr. Robert J. Newstead.

Hospital for Consumption, Brompton. — Summer course of lectures and demonstrations, April to June, Wednesday at 4 p.m. Clinical assistancies (out-patient), attendance in each twice a week at 12 p.m. Clinical clerks (in-patient), twice a week, 10 a.m. to 12.30 p.m., and attendance afternoon of their physicians, three or six months. Fees, inclusive, £1 1s. one month; £2 2s. three months; £8 8s. perpetual. Beds, 321; in-patients, 1,199. For forms, &c., apply to Secretary, Mr. W. H. Theobald.

St. Peter's Hospital for Urinary Diseases, &c. Clinical instruction in the wards daily. Out-patients, Monday, Tuesday, Thursday, Friday, 2 p.m.; Saturday 4 p.m., also Monday and Wednesday 5 p.m. Consultations and operations, Wednesday and Friday, 2 p.m. Beds, 24. Free. Secretary, Mr. Irwin H. Beattie. (See advertisement.)

Hospital for Diseases of Skin, Blackfriars.—In "London Post-

Graduate Course." Next term, eight lectures. Wednesday 4.30 p.m. Beds, 10.

St. John's Hospital for Diseases of Skin, Leicester Square.—Clinical Demonstrations, Wednesday and Saturday at 2 p.m. Lectures, Wednesday and Saturday at 5 p.m. Fees, complete, £2 2s.; on Wednesday or Saturday, separately, £1 1s. For complete syllabus, see advertisement. Beds, 25.

Throat Hospital, Golden Square.—Lectures and demonstrations "in the winter season." Fee, £2 2s. per course. Dates in medical journals. Fees for practice (including lectures), £3 3s. per quarter; £5 5s. per half year. Clinical assistancies, senior and junior. Attendance at 2.30 p.m.; Tuesday and Friday also at 6.30 p.m. Beds, 28.

London Throat Hospital, Great Portland Street, W.—Monday, 8 p.m. (May and June), £1 1s.; hospital practice, one month, £1 1s.; three months, £2 2s.; perpetual, £5 5s.

The Victoria Hospital for Children.—The Medical and Surgical Staff propose giving a course of lectures upon "The Diseases of Children." The lectures will be delivered in the Board Room of the Hospital every Thursday afternoon at four o'clock, and each will be followed by a demonstration of cases. Practitioners and students of medicine are invited to attend. Syllabus to be obtained from Mr. D'Arcy Power, 26, Bloomsbury Square, W.C.

Bacteriological Laboratory, King's College.—In connection with the "London Post-Graduate Course," a course of lectures and practical work, April to July, Friday 3 to 5 p.m Fee, £3 3s. Other arrangements at this laboratory include "a complete course" daily 10 a.m. to 5 p.m. Fee, £5 5s. Evening classes throughout the year, Monday 7 to 9 p.m. Fee, £2 2s. Private study, one month, £5 5s.; laboratories also open for research. For prospectus and further information, apply to Professor Crookshank, Director, or to Mr. Walter Smith, Secretary, King's College, Strand, W.C.

British Institute of Preventive Medicine.—Laboratories open from 10 a.m. to 6 p.m. Instruction in bacteriology, bacteriological chemistry and in practical photomicrography. Fee, full month's course, including re-agents, &c., £5 5s. Evening class (from January 6), each Monday at 7 p.m. Fee, £2 2s. Also, in connection with London post-graduate course, every Thursday at 3.30 during summer, urinary chemistry and bacteriology, £2 2s. Open for original research. Apply to Dr. Macfadyen, 101, Great Russell Street, W.C.

Parkes Museum (of Hygiene), 74A, Margaret Street, W.—A summer course if sufficient entries received, £1 1s.

Central London Sick Asylum, Cleveland Street, W.—Thursday 5.30, London Post-Graduate Course lectures, £1 1s. (L.P.G.C.).

There are a few other special hospitals at which special courses are arranged for graduates. All which have the kindness to supply us with particulars will, in future numbers, receive a fair and careful notice.

Mr. Hutchinson gives clinical demonstrations at his museum, Park Crescent, Tuesday afternoons. Free.

All the great hospitals to which schools are attached are glad to receive visits from graduates, but the latter have necessarily, except at isolated visits, to give way to the regular students and undergraduates. The days and hours of attendance and of the principal operating days are given in the weekly journals.

The museum and library of the Royal College of Surgeons are open daily, and access is readily obtained to them by British, American and foreign graduates and diplomats; Secretary, Mr. Trimmer, Librarian, Mr. Bailey. Special permission is required to visit the museum on Friday and Saturday. Library hours 11 a.m. to 7 p.m.; (to 1 p.m. on Saturdays). Museum hours 11 a.m. to 4 p.m. till February 28 (to 5 p.m., March 1 to August 21).

NOTES ON NEW PREPARATIONS AND APPLIANCES.

New Preparations of the Liquor Carnis Co., Aston Clinton, Bucks.

Virol is a preparation of both the red and yellow marrows of bone, which are combined in carefully calculated proportions, together with extract of malt, the fats and proteids of raw eggs, and calcic phosphate. The emulsion is very perfect, and it will prove a very useful addition to the dietary of children, and of invalids who require a large amount of fats.

Marrol consists of the yellow marrow of ox-bones mixed with some extract of malt. It is agreeable to the taste, and the ready way in which it is assimilated, together with its amyolitic properties—produced by the presence of extract of malt—make the preparation of great use in aiding the digestion and nutrition of children.

A preparation of *virol sans sucre* will be found useful in the treatment of diabetes.

Malto Carnis is a combination of liquor carnis with malt extract and cocoa. When added to hot milk, in the proportion of a teaspoonful to a breakfast cup, a pleasant and nutritious beverage is obtained. Owing to its composition it is very readily digested, and has great sustaining powers.

The Company have also sent us a book, entitled "Our Treasures and How to Keep Them," in which good directions are given for the dietary of children, and the uses of marrol and virol indicated.

Nutritive Suppositories. Griffin, Bath.—These suppositories are prepared from freshly peptonised English beef by an original process, and each corresponds to nearly five ounces of beef-tea, or to two ounces of beef. Their surface is not at all greasy, and, as no non-nutritive base is employed, every particle is absorbed. We have tried them in a case of gastrostomy, and were very pleased with the way in which the patient's strength was maintained between the two stages of the operation.

Ethyl Chloride and Anestile. B. Kuhn, London.—Most of our readers are already familiar with Dr. Bengué's ethyl chloride, and it would be superfluous on our part to point out the many uses of the preparation as a local anæsthetic in minor surgery. The apparatus in which ethyl chloride is sold, has, however, been perfected; formerly these bulbs were supplied with either curved or straight nozzles, but now each end is provided with a capillary spray — one straight, the other curved. The former is sealed up, but can be opened by filing through the glass tube, a spare brass cap being provided for use afterwards. Besides the advantages of being able to use either a straight or curved spray, the existence of a second opening would be of great importance should the apparatus become blocked.

Anestile, which is a mixture of ethyl and methyl chlorides, produces anæsthesia much more quickly, and over a larger surface than ethyl chloride. It is supplied in large nickel-plated copper cylinders, which are fitted with a screw cock resembling that used for a nitrous oxide bottle. A fine and a coarse spray, which can be interchanged at will, are provided with each cylinder, and the whole apparatus can be recharged, when empty, at a small cost. It will thus be seen, that since there is no risk of breakage, and a smaller quantity is required to produce anæsthesia, anestile is much more economical than ethyl chloride.

Mr. B. Kuhn has also sent us samples of **kresochine,** a

new antiseptic, which is composed of kresol and chinoline. According to bacteriological reports, a ¼ per cent. solution kills staphylococcus aureus within five minutes. It is an oily yellow liquid, which dissolves in water with about the same ease as carbolic acid, forming a clear solution, which has no unpleasant odour, and does not corrode instruments, or burn the hands. It is recommended for the disinfection of surgical instruments, and for sanitary purposes.

Beef Peptones. Liebig's Extract of Meat Co., Limited.—An important addition to our invalid foods has been made by the introduction of the Company's new beef peptones. The old Liebig's Extract is almost a household word, but it has often been regarded as a stimulant rather than as a food; this view, however, is based entirely on old chemical examination, which failed to detect soluble albumoses and peptones, but classed them as extractives. This new preparation contains a very high percentage of peptones and albumoses, and is in every way a real food, which is readily assimilated. We have no hesitation in stating that this preparation will hold its own with the various meat juices, and after due trial we can thoroughly recommend it.

Liquor Sedans. Parke, Davis & Co. — This preparation, which has gained for itself a considerable reputation as an utero-ovarian sedative and anodyne, is a mixture of three drugs little known in this country, namely, black haw, golden seal, and Jamaica dogwood. It is available in most affections of the uterus and ovaries, and it acts sometimes quite as a specific in certain cases of dysmenorrhœa.

Apenta Water. The Apollinaris Co., Limited.—We have received from the Apollinaris Company some samples of this new mineral water, obtained from the Uj Hunyadi Springs. The use of natural aperient waters is now so general that a mineral water of constant strength is quite a necessity. The older Hunyadi waters, of which there are so many, and which obtained a great popularity, have been found, of late years, to vary considerably in strength, and to give uncertain results clinically. The production of this new water will be under the control of the Royal Hungarian Chemical Institute (Ministry of Agriculture), Budapest, so we have a guarantee that a proper strength will be maintained.

Professor Liebermann has analysed the water, and finds that it contains 24 and 15 parts per 1,000, of the sulphate of magnesium and sodium respectively. He comments very favourably upon the proportions in which the two salts exist, and concludes his report with the following words:—

"We do not hesitate to declare that we know of no stronger or more favourably constituted natural aperient water than that yielded by the Uj Hunyadi Springs." Owing to its greater strength, the dose of the water is considerably smaller than that of other similar waters. We consider that Apenta water is an exceptionally efficacious aperient, and we confidently recommend it.

Roger's Spray for Nose and Throat.—Mr. Frank A. Rogers, of 327, Oxford Street, has forwarded us one of his new spray-producers, intended for use in throat and nose affections. We have tried this apparatus and find that it throws a copious fine spray, and it will be found to be perfectly adapted for spraying the nose or throat with any medicated fluid that may be required. Owing to the form of the receptacle the spray tube can be tilted to any angle. A special tube is also supplied, if desired, for directing the spray into the post-nasal space in the larynx. Of the many spray-producers now sold this will be found as convenient and portable as any.

Cadbury's Cocoa.—This cocoa has now, for a long time, been recognised as a genuine and unadulterated preparation of cocoa. It is quite free from traces of alkali, which are present in so many of the commercial preparations of cocoa; it represents the standard of highest purity at present attainable in regard to cocoa.

NOTES AND NEWS.

THE Editor is glad to take this opportunity of thanking those members of the Society who have written and spoken to him in terms of congratulation respecting the first issue of the JOURNAL. The members generally, also, will have been pleased to note that their JOURNAL was referred to in a laudatory manner in the pages of the weekly papers of the profession.

A CORRESPONDENT draws attention to the fact that in the editorial article published in our last number, it was erroneous to assume that the WEST LONDON MEDICAL JOURNAL was the first quarterly journal of its kind issued in London—"The idea of a quarterly journal," he writes "is *not* original, inasmuch as the *British Gynæcological Journal* has been in existence *eleven* years; it comes out quarterly and I have the forty-third number before me, so please climb down with your assertion that your journal stands out in 'bold relief when it

is remembered that nothing of the kind has ever been attempted or presumably suggested in London before.'" To comply with this request of a friendly critic is not a difficult matter. No great harm can accrue from our climbing down a little. At the same time, however, it must be conceded that the two journals are not comparable, either in their parentage, aims, or the position they occupy. The *British Gynæcological Journal* is the organ of a Society which numbers among its members medical men in all parts of the kingdom, while the WEST LONDON MEDICAL JOURNAL is to a large extent the organ of a local Society; and it was in the sense that hitherto no Society of the kind in London had so far attempted the enterprise of issuing a quarterly journal of its own, that our remarks in this connection were made.

THE February meeting of the Society was largely attended, partly, no doubt, in consequence of the expectation of hearing some remarks upon gout from Mr. Jonathan Hutchinson. Two days, however, before the meeting took place, Mr. Hutchinson sent word that he was confined to bed, and that he would be unable to fulfil his engagement. It had been hoped, despite his inability to be present, that Mr. Hutchinson would have favoured the Society with some of his notes which might have been incorporated in the present issue of the JOURNAL, but he informed the Editor that the pressure of work, owing to his recent illness, made it impossible for him to comply with the request to do so.

ONE of the consequences of Mr. Hutchinson's absence from the meeting was that of laying the burden of occupying the rostrum solely upon the shoulders of Dr. Garrod, so far as the introduction of the discussion was concerned. But the subject, as had been anticipated, proved a congenial one for the interchange of ideas and the narration of experiences, and the time of the meeting was consequently well occupied. There was only one drawback and that was the intensely soporific effect of the atmosphere of the Board Room in which the meeting was held. If certain of the members did display a pathognomonic sign of somnia, represented by a temporary paresis of their cervical muscles, there was plenty of excuse for them. It was, under the circumstances, wonderful that the victims were so few.

THE condition of the ventilation of the Board Room in which the Hospital authorities kindly allow the Society to meet, could certainly be improved were the matter to be taken in hand. Owing to the alterations in the hospital in connection with the new wing, nearly one third of the Board Room

space has been thrown into the lobby communicating with the new corridor. The effect of this, by reducing the size of the room, has, if anything, added to the inconveniences arising from the want of proper ventilation, and unless something be done to obviate the ventilation defects present, an exhibition of somnolence at the Society's meetings will always be unavoidable. Possibly the whole difficulty might be met by converting the fixed window frame above the door of the Board Room into a revolving one, by which some escape for the foul air would be provided.

THE arrangements for the Bazaar and Fête in aid of the West London Hospital have made great progress since our last issue. The exceedingly gratifying announcement was made a short time ago, that the opening ceremony would be performed by Her Royal Highness, the Princess of Wales. The exact date of the ceremony has still to be fixed, and the committee have yet to learn Her Royal Highness's decision upon this matter. The Bazaar is now under the gracious patronage of no less a number than five members of the Royal Family; and everything seems to point to this special effort to raise funds for the hospital proving to be one of the most successful of the kind which has been organised in London.

IF anyone is wishful to know how the Society is progressing it will only be necessary for him to refer to another page of the present issue of the JOURNAL, in which is recorded the full list of the names of the new members who have joined during the last quarter. The list is certainly a remarkable one in its length, as well as being unprecedented in the history of the Society. It may be trusted that every member does his best to induce his friends who are not already members, to join us, for such policy is wise and expedient; it assists in making smoother the pathway which leads to further successes, it tends to disseminate more widely the undoubted advantages derivable from the membership of such a Society as ours, and it helps to render less burdensome certain of the responsibilities inseparably associated with the work upon which the Society is engaged.

BEFORE the next issue of the JOURNAL is due, what may be called the "great functions" of the Society will have been held. That is to say the Annual Dinner, possibly the Annual Meeting, and the meeting for the Cavendish Lecture. So far as the first is concerned, special efforts will be made with a view to organising a *reunion* of a record nature. It has not been always the case that the annual dinners, in respect to the attendance of the members, have been worthy of the size and importance of the Society; but it is hoped that the exception

this year, will be the difficulty of finding room for all those members and their guests who may be desirous of attending.

THE Honourable Henry Cavendish, with whose name the Society's Annual Lecture is associated, had many eccentric ways. For example, he dispensed charity by a singular numerical rule—not always in accordance with the deserts of those for whom assistance was craved, into whose wants it was his custom to make no inquiry. When anyone called upon him with a subscription list for some charitable or benevolent object, it was his custom to look down the list for the *largest* subscription. He would then take his cheque book, and write out a cheque for the amount of the largest sum subscribed by any one individual, neither more nor less. This practice of his became known, and advantage was taken of it. Some persons, on particular occasions, entered large nominal amounts in their subscription lists, and by this means the great chemist was cheated into giving larger subscriptions than he otherwise would have done. It is clearly a matter for regret that no one with the same capacity for dispensing charity is available at the present juncture for the West London Hospital. When Cavendish gave largely out of his great wealth to charitable objects, there was less demand for such aid, and thus it was more freely given. The times, however, have changed since the palmy days in which he lived; most persons nowadays are compelled to study charity in their own households, with the result that after having spent all that they want upon themselves, they find that there is not much left for anything else.

THE Editor has been asked to announce that a Masonic Lodge for medical men in the West of London, mainly in connection with the West London Medico-Chirurgical Society, is being promoted. It is proposed to designate it the "Cavendish Lodge," after the Honourable Henry Cavendish. At the preliminary meeting of the promoters, held within the past few days, most of the details were arranged, and among other matters settled, Mr. Frederic Lawrance agreed to be nominated as Worshipful Master-elect. Particulars may be obtained from Dr. P. S. Abraham, 2, Henrietta Street, Cavendish Square, W.

Errata.—In Dr. Alderson's remarks on gastric ulcer (page 48 in the last number of the Journal), for 305 "*registered deaths*," read 8,305; and on the same page, for "*pleurisy, left diffusive gastric ulcer*," read "left pleurisy with effusion, gastric ulcer."

NOTICE.—All communications relating to the Literary part of this Journal, Books for Review and Exchanges should be addressed to the Editor, Mr. PERCY DUNN, 54, Wimpole Street, Cavendish Square, W. Applications for Copies of the JOURNAL, communications respecting Advertisements, and Instruments, Pharmaceutical Preparations, &c., intended for notice, should be forwarded to the Editorial Secretary, Mr. L. A. BIDWELL, 59, Wimpole Street, Cavendish Square, W.

THE

West London Medical Journal.

Published Quarterly under the auspices of the West London Medico-Chirurgical Society.

Original Communications.

THE CHEMICAL CONSTITUTION OF THE CARBOHYDRATES AND ALBUMINOUS SUBSTANCES, WITH SPECIAL REFERENCE TO DIABETES AND ITS TREATMENT.

By J. L. W. Thudichum, M.D., F.R.C.P.Lond., &c.

General Survey of Subject.

The researches of scientists on the carbohydrates—bodies which have for their types the sugars, starches, and the materials forming the skeleton of plants, cellulose, lignin, &c.—have during late years effected such an increase in our knowledge, that it seems advisable to summarise it, and to show how this increase is likely to affect pathology and medicine. In the animal body many carbohydrates perform important functions, first, as food ingested from without, and transformed within the body; secondly, as products of the chemical activity of the body for the adaptation of food for the young, as in the case of cows' milk for all ages; thirdly, carbohydrates are potentially contained in all organo-plastic substances, forming, so to speak, the chemical skeleton of the albuminous matters of the blood, tissues, and

circulating liquids, and—most important of all—of some of the prominent constituents of the brain and nerve substance. In consequence of these relations, carbohydrates are concerned in many pathological processes. For as they are liable to many and varying decompositions by unorganised ferments, and organised microzymes, they become the matters on which disease processes revel, as in infantile diarrhœa, and in a number of processes which are ordinarily comprised under the the name of glycosuria, or diabetes, and generally in nearly all zymotic processes.

The genesis of carbohydrates is a result of vegetable life-action. In the plant-cells carbohydrates are produced by the polymerisation of formic aldehyde, CH_2O, which is itself produced from carbonic acid and water by reduction, or loss of oxygen under the direct influence of sunlight: $CO_2 + H_2O = CH_2O + O_2$. This aldehyde by polymerisation may produce a multiple without loss or addition, *e.g.*, by the condensation of three molecles a glycerolose, $C_3H_6O_3$, ordinarily obtained by the oxidation of glycerol (commonly termed glycerine), or a carbohydrate of the C_6 series, 6 $(CH_2O) = C_6H_{12}O_6$. Carbohydrates, particularly starches, are the first discernible products of chlorophyll action, and out of them all other products seem to derive by chemical evolution. The progress in our knowledge of carbohydrates consists partly in this, that they have been recognised to form an ascending series, like the fatty acids, and are therefore homologues, and form strictly analogous compounds, and modifications also, by changes outside the fundamental chain of carbon. The carbohydrates, in which hydrogen and oxygen are present in the same proportion as in water, *e.g.*, dextrose, or glucose, and which are termed true carbohydrates, are ranged under a series, the name of each member of which is characterised by receiving the terminating syllable of "ose." Now as we know carbohydrates with 2, 3, 4, 5, 6, 7, 8, 9 atoms of carbon, we can form a systematic scheme of names with the aid of these numbers, and shall see that all known carbohydrates fall easily into their proper places; while the empty places indicate the chances of new discoveries, many of which have already been made, by researches in nature and by chemical synthesis.

Homologous Series of the Carbohydrates.

Examples.

Diose, C_2, glycolose, $C_2H_4O_2$, by oxidation of glycol.
Triose, C_3, glycerolose, $C_3H_6O_3$, by oxidation of glycerol.
Tetrose, C_4, erythrose, $C_4H_8O_4$, by oxidation of erythrin, an immediate principle of lichens.
Pentose, C_5, arabinose, $C_5H_{10}O_5$, falsely placed in C_6 series (kryptophanic acid).
Hexose, C_6, glucose, $C_6H_{12}O_6$ and isomers (alpha acrose) synthetical, optically inactive.
Heptose, C_7, Octose, C_8, Nonose, C_9, Dodecatose, C_{12} } synthetical sugars and isomers; nonose ferments with yeast.

Here begin the saccharoses, or double sugars, the disaccharides, and this feature, namely, the condensation by multiplication, is not certainly known to occur in the fatty series. It is probable that to each carbohydrose there corresponds a starch or body, which stands to it in the same relation as starch to dextrose. The bodies are termed carbohydranes, and we thus obtain the series parallel to the carbohydrates, of dianes, trianes, tetranes, pentanes, hexanes (the common kind of amyloses), &c. These have again each their multiples, expressed by the exponent *n*. Carbohydrates which, like mannite, are hydrogenised, *i.e.*, contain more hydrogen than corresponds to its proportion to oxygen in water, are termed carbohydrites, the termination being derived from their type, mannite.

In physiology and medical practice we have principally to deal with the hexanes, or amyloses, namely, starch $(C_6H_{10}O_5)_n$, glycogen $(C_{12}H_{20}O_{10} + H_2O)$ of the liver, dextrin and its modifications; cellulose; inulin 6 $(C_6H_{10}O_5) + H_2O$ and amyloid; then with the saccharoses or disaccharides, in which two molecles of a hexose are joined with simultaneous dehydration :—

Cane sugar (sucrose) = dextrose + levulose—aq.;

Lactose (milk sugar) = dextrose + galactose—aq.;

Maltose (sugar of malt) = dextrose + dextrose—aq.; and melitose, melezitose and trehalose. We are further concerned with the hexoses or glucoses, having the highest degree of hydration :—

Dextrose, diabetic sugar; levulose; galactose, in cerebral diabetes; sorbin; inosite, muscle- and brain-sugar; scyllite, muscle-sugar of sharks; dambose; eucalinose; phenose, connected with saccharin; and finally, mannitose.

The gums are prominent in vegetable physiology and pathology, and form a frequent produce of disease. But they also occur in human chemistry, so that, *e.g.*, kryptophanic acid of the human urine is a nitrogenised derivate of the pentane series (C_5).

Metamorphoses of Carbohydrates.

Increased Hydration.—The carbohydrates are most readily metamorphosed into simpler bodies by processes which, as they are accompanied with the accession of water, are termed *hydrolyses*. When the process is effected by chemical means, such as acids, it is called chemolysis; when by ferments it is named zymolysis. These words are of course merely abbreviating symbols. How important and numerous the ferments are in the physiology of the carbohydrates, their names alone will indicate—diastase, ptyaline, amylolytic pancreas ferment, invertin, pepsin, trypsin; by this action starch becomes maltose, saccharose becomes invert sugar, maltose splits up into dextrose. The others act not so much by cleavage as by metamorphosis.

Decreased Hydration.—Of the metamorphoses of the carbohydrates by decreased hydration or dehydration, we will quote some examples. Dextrose at 170° C. loses a molecle of water and becomes glucosan, $C_6H_{10}O_5$; levulose becomes levulosan; cane-sugar becomes, by the process which dehydrates a single sugar, a mixture of levulosan and dextrose. Yeast by its life-action dehydrates or reduces sugar to cellulose. The protoplasm in the sugar-cane continuously transforms dextrose into sucrose by such dehydration. In the liver of man and animals the protoplasm of the cells transforms carbohydrates into glycogen.

Ferment and Protoplasmic Action.—This leads as to a comparison of the effects of ferments with those of protoplasmic action. It must be remembered that an organic ferment is itself a product of protoplasm, and is therefore, so to say, a deputy with limited powers. The albuminous matters yield by peptonising ferments peptones, and with these other products of hydrolysis, including a glycose, apparently galactose. Peptic ferments occur in vegetables, and in some in a concentrated form and in quantities, so that a digestive medi-

cine, papaine, is prepared from the carica papaya. Insectivorous plants secrete such ferment on their active surfaces. Many seeds form digesting ferment during early stages of growth: the milk juice of figs, the latex, contains it; all flour, particularly wheat-flour, contains a peptic ferment, and, as dough, digests meat in large quantity (a pound of meat dissolves in the dough from two pounds of flour).[1]

Protoplastic power, while producing the ferments and sending them on an independent course of action, is, as regards action within its substratum mainly characterised by the faculty of synthesis. Thus it produces starch in the leaf, out of carbonic acid and water, in the manner alluded to above; this starch passes into sugar and travels; at the proper period and in the proper place it may again be reduced to starch and deposited as reserve material (*e.g.*, in corn, beans, potatoes). These reserve materials are again awakened out of their rest by ferments produced under the influence of external stimuli, such as light and heat. The question of the synthetical power of protoplasm is one requiring much study, as the opinions hitherto accepted on that subject are far too limited. Thus we read that animals merely adapt the nutritive matters synthetised by plants. But this does not hold good as regards, *e.g.*, the colouring matter of blood, which is produced by the animal itself and the animal only. The plant can adapt mineral food and make it organic; the animal cannot adapt such mineral food, but once made organic, the food can be further synthetised by the animal for its purposes.

Most metamorphoses are effected gradually, and their results are not so simple as is suggested by the main agents and products. Thus the amyloses, or polycarbohydrates, pass into saccharoses or dicarbohydrates, *e.g.*, starch into maltose, but there is always a residue, temporary or permanent, of dextrines. Lactose yields galactose and dextrose. This enables us to explain the result of the fermentation of lactose in mare's milk, in the process for the production of koumiss. The torula cerevisiæ ferments, *i.e.*, decomposes the lactose, producing galactose and dextrose, and then ferments dextrose producing alcohol, carbonic acid, succinic acid and glycerol.

[1] See my pamphlet, "On Meat-Bread and its Uses," published by Baillière, Tindall & Cox.

The bacillus lactis now or concurrently transforms the galactose into lactic acid; if now the liquid be kept long, mycoderma aceti transforms some alcohol into acetic acid; and the butyric acid bacillus produces butyric acid from lactic, by a partly synthetical process; at last bacillus subtilis produces putrefaction and its products.

The ferments of diseases act analogously; they are never alone, but always accompanied by pilots and scavengers. We can follow their action on must and wine, on which materials they produce surprising results; some of these ferments destroy the sugar of must completely without yielding any alcohol, but unknown horribly smelling and tasting products.

The contrast between plastic power and metabolic power was first clearly defined and characterised with these names by Schwann. He also first termed the physiological unit of action in plants and animals a cell. Vain is the endeavour of some so-called (animal) physiologists to get rid of this term; it is always correct, even when the cell is filled with a plastic material and not apparently with liquid. But it is an absolute requirement to define such an organ as the cell of the leaf of the Valisneria. In this, when active, you see the revolutions of the chlorophyll corpuscles, the accession of starch, currents of liquids with varying particles, currents which steadily flow in opposite directions, without being separated by a membrane. Such a cell in action is a world in itself—a microcosmos of the most astonishing kind. Every other cell is no doubt the same, but its mechanical action cannot at present be made visible. The dead structures of the cell are of relatively slight interest, and the section of modern microscopists, with their dreams and fancies of particular structure of nuclei, and their wordy modifications, will succeed in diminishing it still further. On this matter the reader should consult what Dr. Beale says regarding liver cells, in his latest work on the liver.

Combinations of Carbohydrates.

Sugars belong to the groups of aldehydes and ketones, and as such the copper-reducing sugars combine with phenylhydrazine, and the compounds crystallise. In the first stage a molecle of sugar combines with a molecle of phenyl-

hydrazine, forming a hydrazone, generally a soluble body; this is oxydised and then combines with a second molecle of phenyl-hydrazine, producing an osazone, a usually crystallised body of very moderate solubility. Thus the osazone of dextrose (dextrosazone) has the composition expressed by the formula $C_6H_{10}O_4(N_2HC_6H_5)_2$. Two molecles of phenyl-hydrazine replace two molecles of hydroxyle.

Osazones differ from the "oses," or carbohydroses, *i.e.*, the sugar contained in them in combination, by solubility, optical characters, crystalline form and melting point. By means of its combination with phenyl-hydrazine, or at all events while in the condition of osazone, one sugar may be converted into another, as dextrose into levulose; also a sugar may be recovered from an osazone and yield a modification, which is termed a glucosone.

Recognition and Quantation of different Carbohydrates.

The diagnosis of carbohydrates which may be present in animal parts is one of the most difficult problems of medical chemistry. On this subject mountains of fallacies are accumulated in modern so-called physiological periodicals and hand-books, mostly the products of the exercises of students, badly piloted by physiological professors. The application of such methods of research as there are available, *e.g.*, to the blood, do not admit even of the identification of the reducing agent, which is merely inferred from the fact of reduction, but otherwise uncontrolled; this refers to soluble sugars; but in regard to other carbohydrates in tissues and liquids, the difficulties of extraction and quantation are much greater; this is shown by the attempts to quantate glycogen and dextrin. One of the most assiduous workers on this subject confounded for years carbohydrates, which he had produced chemolytically from animal parts, with glycogen supposed to be present in admixture in these parts. But then the new tests have induced progress, for in addition to the copper-reducing fluids (*e.g.* Fehling's) there is now the optical test, and the osazone test. The diagnosis of sugars from each other by the products of their transformation or oxidation has also made progress; thus galactose can be proved by its yielding mucic acid (which had better receive the name which Scheele gave it, namely, galactic acid). And thus the brain educt phrenosine, can be proved

to contain a galactose radicle by its yielding galactic acid, when oxydised with nitric acid.[1])

The combinations of carbohydrates receive their highest elaboration in the shape of the organo-plastic substances, commonly called albuminous. On the basis of the evidence of their all yielding sugar or allied carbohydrates in chemolysis, I termed them amylonides, implying thereby that they were constructed on a frame or skeleton of amylose, and I gave a sketch of their evolution from cellulin, through the series of lower animals, through glycogen, tunicin, chitin, conchiolin, hyalin, fibroin, serin, phrenosin, kerasin, gelatin, mucin and albumin. I showed that most of these were not glucosides, properly so-called, but yielded other products besides a sugar, just as albumin by chemolysis does not yield dextrose, but an optically inactive sugar (with osazone) and dextrine, and a gum-like body, probably a pentose, and not fermentable. I invite my readers kindly to peruse my article on this subject, entitled "The Chemical Constitution of the Organo-plastic Substances, considered with the aid of the Hypothesis of their Amylonide Nature," published at the head of the first volume of my "Annals of Chemical Medicine," 1879. This philosophical article includes the evolutional theory, and is the leading argument in the subsequent articles on "Chemolysis of the Organo-plastic Substances." If the carbohydrate substratum of an organo-plastic substance were only 70 × amylose$_n$, that is to say, if it were to consist of only seventy molecles of the simplest expression, namely, $C_6N_{10}O_5$, and if each molecle could receive five molecles of compound radicles by substitution of hydroxyle, and one by addition, then the seventy times six places could be occupied by 420 radicles, and an albuminous molecle could be formed of 420 proximate radicles. This is fully borne out by the results of chemolysis, of which all known products are described. All these must be comprised under the term leucomaines, if this word is intended to be used, and must be so called; but the limitation to a few curi-

[1] *Cf.* J. L. W. Thudichum, "On Phrenosine, an immediate Educt from the Brain, and the Products of its Chemolysis by Nitric Acid," in *Journal f. pract. Chemie*, N.F., vol. liii., p. 49, *et. seq.* 1896, and an article with the same title in the *Medical Press* for 1895, and in my forthcoming work entitled "The Progress of Medical Chemistry," &c.

osities of this name, at present accepted by some writers, appears inadmissible.

The Digestion of Carbohydrates in the animal Body.

The digestion and assimilation of carbohydrates has been often formulated as if it were a very simple problem. Ptyalin transforms a little starch into sugar, and from this the transformation of all starch into sugar was argued. But the transformation is, with all the aid which pancreas and intestinal juice can give, only partial. Moreover, it is not the same in all kinds of carbohydrates. The principal ones introduced as food are starch, inulin, glycogen, cellulose, dextrin, maltose, cane sugar, lactose and glucose, or dextrose and levulose. These bodies are partly changed in the intestinal canal and prepared for absorption, or are left unchanged and unabsorbed (old cellulose), or are absorbed in the same state as that in which they entered. Here it is necessary to differentiate and study each carbohydrate separately. We can here only refer to some examples which prove the necessity for close watchfulness in each observation. Lactose undergoes two processes in the intestinal canal; it is partly split up and the resultants are absorbed as such, or they are partly fermented and yield lactic acid. An excess of this formation constitutes an element in the summer diarrhœa of children and in acute rheumatism; but while symptomatically very prominent features (by their effects), these acid products must not be mistaken for the primary cause. The lactic ferment also affects dextrose in other diseases, particularly gastric derangements; in these respects all carbohydrate elements of food, including those contained in flesh, potentially or actually, must be carefully considered.

The carbohydrates pass from the intestinal canal mainly into the portal blood, and by means of this into the liver, and very partially, if at all, into the chyle; if any pass into the chyle, they must possess reactions differing from those of the carbohydrates at present found in blood and tissues. Of the carbohydrates in the blood only part is dextrose; other forms closely related to this are there in quantity, and possibly some are in forms at present undefined, and therefore are not seizable. The liver abstracts carbohydrates from the

portal blood, deposits them in the cells or protoplasm, and then transforms them into glycogen. This is a distinct act of storage, indicating a periodicity of function. Here the evidence concerning the transformation of carbohydrates ends, unless we adopt the hypothesis of Bernard to the effect that the glycogen deposited in the liver periodically is transformed into sugar regularly and continuously, passed into the blood and consumed in the circulation in an unknown manner, most likely by oxidation. But there is no proof of the re-transformation of glycogen into sugar during life, however seductively the fact may lead to the assumption that it is effected rapidly and massively directly after systemic death. Too many facts are as yet irreconcileable with the theory, however persuasively the ingenious work and consecutive thought of Bernard may have placed it before us. When we examine the blood for sugar by the so-called best methods, we must remember that all methods are as yet very uncertain, at least as regards accuracy, but on the whole the accuracy attained is sufficient to prove the difference between portal blood and systemic blood as regards the amount of reducing sugar, or carbohydrates transformable into such reducing sugar.

The result of the application of these methods is summed up in the following argument. Whereas portal blood may contain from 1·5 to 4·5 per mille of carbohydrates recognisable as sugar, and whereas on leaving the liver portal blood contains invariably only 1·1 per mille of sugar or carbohydrates as defined, that is to say, no greater amount of carbohydrates than is contained in all blood wherever taken, whether from the right or left side of the heart, or from the systemic circulation, there is no proof that any sugar passes from the liver into the blood during life, there is the clearest proof that the liver abstracts carbohydrates from the blood, namely, all above 1·1 per mille, but it does not give them up again to the hepatic veins, as their blood contains only as much as the hepatic artery brings, or the portal vein brings in periods of starvation, and as much as is contained in all blood. The liver, therefore, seems to act rather as a filter of several kinds of blood and to purify particularly portal blood from the presence of all carbohydrates above 1·1 per mille. If the liver fails in this function, even partially, the sugar passes through it, appears in the venous, then in arterial

blood, produces glycohæmia, and this, consisting in the presence of more than 1·1 per mille of dextrose in the blood, in its turn causes directly an excretion of dextrose into the urine, and thus we have at least one form of the state of glycosuria or diabetes.

Inquirers have endeavoured to show the disposal of starch, particularly in the intestinal canal, *e.g.*, by the hypothesis that albuminous peptones were bodies which have lost their sugar by the pepsin-digestion or pepsis, and received it back again when passing through and in the villi by the aid of the dextrose from starch. This hypothesis labours under various *prima facie* improbabilities. First, the process could not be of any apparent use; by the splitting off of sugar in the stomach and duodenum energy would be lost; this loss would be doubled by the reconstruction in the villi; nothing would have been gained. Secondly, hypothesis assumes that the peptone so-called was yet a unitary body when it arrived in the villi, whereas the theory implies that the albuminous molecle, in losing its carbohydrate, had lost its constituting frame, that there are therefore neither means nor power to re-assemble its 420 inserted radicles, which must have been dispersed throughout the body, as much of the digested albumen undoubtedly is apt to have passed the pancreatic influence. Another objection is derived from the consideration of the relative quantities of peptones and carbohydrates taking part in each digestive cycle. If albumen can yield sugar by zymolysis or pepsis, it can yield only about 4 per cent. Taking a pound of meat at 500 grammes, and this to contain 125 grammes of dry substance, this would yield by this pepsis only 5 grammes of sugar. Moreover, the peptones would again meet their own lost sugar, and they would be unavailable for any function with the perhaps 500 grammes of carbohydrates, which have to be carried to the liver. The theory is also not applicable to carbo-hydrates not being the peculiar albumen-sugar.

Glycogen, the great discovery of Bernard, is a very massive product of the action of the liver, and may amount to as much as twenty per cent. of its solids. Assuming these dry solids to amount to 500 grammes, the whole of the glycogen may amount to 100 grammes. Even this maximum shows that the storage capacity of the liver for glycogen is but

small in comparison to the daily turnover of carbohydrates in the economy, for a strong adult man requires at least 500 grammes carbohydrates in every twenty-four hours, besides 120 gr. albumen and 60 grammes of fat. The storage capacity is therefore only one-fifth part of the daily turnover, and this proportion makes me very doubtful about the hypothesis of the storage acting as a means of regulation to admission of sugar to the blood. Four-fifths of the daily carbohydrate food are not shown to be under any regulating influence whatever, in fact it appears as if a great part at least of these 400 grammes entered the blood in a form as yet not ascertained, and took no part in the formation of glycogen.

The sugar found normally in the liver is never mere dextrose, but maltose is present by the side of it, and dextrin accompanies both. If then the formation of dextrose in a regulated manner be actually a result of the re-transformation of glycogen, then it can be only part of that function of glycogen; the other products derived from glycogen are unknown, and have to be investigated.

The Action of the Liver.

The action of the liver includes clearly its function as a regulator for the blood, but its chemical function, the transformations effected in its protoplasm, are intimately connected with the biliary function. It is extremely remarkable that this, evidently the main function of the liver, performed in the same protoplasmic organ, the cells, should never have been brought, or even endeavoured to be brought, into any kind of connection with the so-called glycogenic function. The biliary function was treated as if it belonged to an organ altogether different and separate from the organ which carried on the glycogenic function. This demonstrates in a clear and conclusive manner the extremely low state of the knowledge and teaching concerning the function of the formation of the bile, and the still lower state of the teaching concerning its functions and its bearing in diseases. The products of disease, bilirubin and bilifuscin are registered as normal ingredients, whereas they are disease products, or at least decomposition products; the normal pigments are quite unknown. The formation, constitution and use of the biliary salts and of their

specific nuclei is quite unknown. As regards the phosphatide in bile all physiologists term it lecithin, whereas no lecithin is present in (ox-) bile, the only one examined in this respect, but a phosphatide which contains four atoms of nitrogen upon one atom of phosphorus and combines with platinic chloride to a splendidly crystallising salt (cholo-phosphatide). The bile further contains a specific alkaloid, remarkable by its containing the radicle of what appears a highly oxidisable acid, closely related in its bearing and reaction to cholic acid. By such erroneous positive assertions on the one, and by suppression of well-ascertained data on the other hand, physiologists compromise the progress of science, maintain and spread false doctrines, and fail to fulfil their duty towards their pupils and their future patients.

At present we must look upon the formation of sugar in the liver after death as the result of a cadaverous change which continues with progressing decomposition, and is not an act of the protoplasm, but of a non-organised ferment. It shows best how quickly protoplasm dies when the influences of systemic nerve power does no longer reach it.

Carbohydrates in the Blood, Urine and Muscle.

I have above taken 1·1 per mille as the average amount of carbohydrate demonstrable as dextrose in the blood; this figure is the result of the collection of the best observations, but some let it vary between 0·6 and 3 per mille; Bernard gave the maximum as 3, the minimum as 1 per mille, others had 1 to 2, others again 0·6 to 1·1 per mille. These discrepancies must be borne in mind in judging of what are, after all, highly difficult experiments. I have tested some assertions concerning the bearing of carbohydrates in blood, *e.g.*, the alleged disappearance of dextrose from blood. In diabetic blood the sugar did neither diminish nor increase with time, but remained stationary for several days until decomposition began.

The question of the presence of sugar in healthy urine has produced much discussion and many experiments, but very little practical result. The discovery of creatinine as a copper reducing agent has helped to clear up previous confusion. At present it seems as if traces of sugar could be

made to appear in urine by particular diet, in German Universities by the drinking of much beer.

Sugar in muscle may vary between 2 and 4 per mille; but the carbohydrates in muscle vary widely, and are at present not diagnosed. There are so many fallacies interfering with their quantation in tissues, that the attempts hitherto made are not sufficiently trustworthy for calculations and theories.

Practically we may say that the condition of the blood reflects itself in that of the urine, and that that of the blood is influenced by that of the tissues. By the analysis of the urine we can ascertain the condition of some of the tissues. This is illustrated by cerebral diabetes, or galactosuria. In nervous disturbances of hitherto obscure nature, galactose is found in the urine. This must be distinguished from the lactosuria of in-lying women, which is of mammary origin, whereas galactosuria is of brain and nerve origin. The cerebro-galactosides phrenosin and kerasin suffer a more or less extensive decomposition, and their galactose appears in the urine, and can be proved by isolation, optical test, reducing action, cristalline form, and transformation into galactic acid by oxidation with nitric.

This condition, then, constitutes cerebral glycosuria; its sugar appears clinically not different from that of other cases of glycosuria, but requires a special research for identification. The sugar is, however, always present in small quantities only, not exceeding 1 per cent. If caused by agitation, fear, terror, mental depression or similar causes, and if the causes are repeatedly or continuously acting, the cerebral will pass into hepatic glycosuria, *i.e.*, paralysis of the intercepting action of the liver as regards dextrose and its forerunners. This may be followed by intestinal diabetes, that is to say, that exaggeration of the sugar forming (including diastatic) action of the intestinal canal whereby more sugar is formed than the liver can intercept, even when it is healthy. This form is the common severe form of diabetes in younger patients. That form of glycosuria, which results from the patholysis of albumen also shows very little sugar in the urine, but leads to rapid emaciation. In such a case the sugar in twenty-four hours will not amount to more than 5 grammes, mostly, however, to much less. General glycosuria in adults below fifty years of age mostly consists in a diseased zymosis, whereby phrenosin

and kerasin are first patholysed during the nervous period, then albumen takes a share and the excreted sugar consists of galactose and dextrose, and at last the carbohydrates all participate in the production of dextrose, and in this the small proportion of galactose is no longer distinguishable.

The treatment of all forms of glycosuria is at present merely empirical and very little individualised or adapted to the different forms. The nervous forms require sedatives, among which the opiates act best. With the aid of opiates and rest cerebral forms not rarely recover perfectly, without the special diet, which, on the contrary, is clearly contra-indicated. The intestinal form is that which justifies the special diet the most, and some persons of the latter class will carry out the diet even for long periods. But many do so imperfectly, and some, particularly aged persons, reject it altogether. I have known such repudiations of the special diet to be rather advantageous to the patients. I have found that the drinking of water, and baths, *e.g.*, in Carlsbad, has in many cases not had any curative or even mitigatory effect. Under these circumstances it is more than ever necessary that the factors of the disease should be well understood and readily diagnosable.

Relations of Carbohydrates to Fats.

The alleged relation of the carbohydrates to fats and their alleged transformation into them, have a great practical bearing upon our treatment of diabetes as well as obesity. In the latter carbohydrates are excluded on the hypothesis that they are transformable or transformed into fats. This alleged, and by many strongly supported transmutation, has some elements of improbability against it which are the result of chemical consideration. The process would require the existence of a power to effect a great chemical reduction, and further a power to chain at least three molecles of carbohydrate together. Three hexoses, in order to form one molecle of stearic acid by synthesis, $C_6H_{12}O_6 \times 3 = C_{18}H_{36}O_{18}$ — require the elimination of 16 atoms of oxygen, thus $C_{18}H_{36}O_{18}$ — $O_{16} = C_{18}H_{36}O_2$. What power is there in the animal body to effect such a gigantic chemical change in the short time available for it? What is the material which reduces, and where is its source and residence? I have no answer to these

interrogations. The most trusty modern inquirers into the laws of nutrition have come to the conclusion that the transformation of carbohydrates into fats is certainly not proved, and is rather improbable.

ON THE DIAGNOSIS AND TREATMENT OF TUMOUR OF THE CEREBELLUM.[1]

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There have been, under my care, in the hospital, quite recently, two cases of tumour of the cerebellum, in one of which the diagnosis was confirmed at the *post-mortem* examination. I have, therefore, thought that it would be of interest to make some remarks upon the diagnosis and treatment of this condition.

The first case I show you is that of a youth, aged 17, who came to the out-patient department in December, 1895, complaining of headache, which was chiefly vertical, but to some extent also diffused over the head; he gave a history of having had, three weeks earlier, two attacks of unconsciousness, in which he was convulsed, but did not bite his tongue, nor pass urine involuntarily. On examination it was found that the headache was associated with general tenderness over the scalp, and that the optic discs both showed early optic neuritis, more especially in the left eye. There was no history of vomiting, or of aural discharge, and the urine was free from albumen. As the presence of headache, with early double optic neuritis and attacks of unconsciousness, suggested the existence of an intracranial new growth, he was admitted to hospital for closer observation and examination. Here the following additional facts were obtained:—

When made to stand with the feet together and the eyes

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[1] A Post-graduate Lecture delivered at the Hospital, on Wednesday, March 4, 1896.

shut, the patient tended to fall backwards, and the gait was unsteady; there was vertigo, but no ocular paralysis or hemiopia; general cutaneous sensibility was unimpaired; the grasp of the right hand did not appear to be quite so strong as the left. The right knee-jerk was present, but diminished, and at times difficult to elicit, while the left knee-jerk was well marked. The pupils were of medium size and contracted to light. A more careful ophthalmoscopic examination showed blurring, and in places obscuration of the margin of both optic discs, with some tortuosity of the veins, but no hæmorrhages; this condition being more marked in the left than in the right eye. The fits observed in hospital were accompanied by increase of headache, unconsciousness, and general convulsion, and presented some features of a hystero-epileptic nature. There was no history or sign of syphilis.

From the symptoms and course of the ailment, one came to the conclusion that there was commencing cerebellar disease, probably of the nature of a new growth, although it was impossible, from these facts alone, to more particularly localise the lesion. The symptoms pointed chiefly to increase of the intra-cranial pressure, and as no relief was obtained from the use of drugs, except morphia, it was decided to remove a disc of bone from over the occipital region. This was done by Mr. Cheatle on February 10, an inch trephine being used, and the dura-mater left unopened. Since the operation, the patient has had marked relief. The headache has entirely disappeared; there has been no repetition of fits, and now he is able to stand with his eyes shut, and walk about in a natural way, and the optic neuritis has almost subsided. When seen one month after the operation, he stated that he had slight headache, but no return of the convulsions. The right knee-jerk is difficult to elicit, and the optic discs present little change from normal.

Case 2. — The next case is that of a young married woman, who was admitted on February 21, 1896, under the care of Dr. Ball, who kindly handed her over to me. Her chief complaint was headache, and her appearance was suggestive of it. She has had four healthy children, and one miscarriage. The attacks of headache are paroxysmal, more especially morning and evening, and on movement. Pain begins on the vertex, and then spreads all over the head and

down the neck to between the shoulders, with occasional vomiting. The headache is more or less general, and the scalp is tender on percussion, but the pain is specially localised on deep pressure over the left occipito-cerebellar region. On examination, on February 27, the left knee-jerk was not obtained (constantly verified), right knee-jerk being present and glib. There was marked double optic neuritis in both eyes, more intense in the right, where swelling amounted to + 4 dioptres with fan-shaped hæmorrhages all round the disc. In the left eye there were also numerous smaller hæmorrhages. The macular region in both eyes was normal. Right vision:—fingers counted at 2½ feet; left vision:—fingers counted at 5 feet. No tremor of arms; grasps of both hands feeble. Sensation:—the prick of a pin was not felt as painful on the left side of the face or in the left nostril, nor was it felt on left hand. Touch, however, was felt on both sides of the face; the cornea was quite sensitive. She walked fairly straight, but inclined slightly towards the left side. There was a constant tendency to fall to the left. Hearing was unaffected, watch and tuning fork being well heard on both sides; if anything, a little better through the bone on the right side.

No benefit being obtained after a trial with the usual remedies, the operation of removing a disc of bone from over the left cerebellar hemisphere was performed by Mr. Cheatle on March 3. The cerebellar folia appeared healthy when seen through the dura mater. As removal of more bone did not reveal the presence of a morbid growth, the membrane was not incised.

This patient's chief complaint was, as I have stated, headache, which was at times almost unbearable. With, therefore, the previous case as a precedent, the operation as described was performed. Up till one week after the operation the headache has entirely disappeared, and there has been no return of vomiting. The optic neuritis remains as before, but no fresh hæmorrhages have been thrown out, and those present before the operation are resolving. The vision remains as before, and similarly the knee-jerks.

Case 3.—A short time ago I was asked by Mr. Bidwell to see in the hospital a boy, aged 4, who suffered from the following symptoms:—Headache, blindness and inability to stand or walk. On examination the knee-jerks were exaggerated,

and extensor spasm existed in both legs; there was no ocular paralysis. His head was large, and one could feel that the sutures were being opened out by the increased pressure within, and there were large distended veins over the scalp. He had double optic atrophy, the result of intense neuritis some time previously, and his vision was *nil*. He lay on his back passing motions in the bed, and he was quite unable either to stand or to walk, although he could move the limbs freely. This was regarded as a case of tumour of the cerebellum; and from the fact that the symptoms were symmetrical, that both knee-jerks were increased, and that he was unable either to stand or walk, one came to the conclusion that the tumour most probably involved the middle lobe, and was of tuberculous nature, and this turned out to be the case at the *post-mortem* examination, when a large tuberculous mass was found completely replacing the vermis cerebelli.

With these three cases before us, I propose making a few remarks as to the diagnosis of tumour of the cerebellum. For this purpose, the symptoms may be classified under three headings: (*a*) General symptoms of intracranial new growth; (*b*) special symptoms, pointing to an affection of the cerebellum; and (*c*) localising symptoms.

The *general symptoms* are, as is well known, headache, vomiting and optic neuritis. The three cases which we have considered presented headache as a prominent feature; but headache in cerebellar disease may vary to some extent. It may be of the nature of a general neuralgia with hyper-æsthesia of the scalp, but local pain on deep pressure may usually be obtained over the occipito-cerebellar region. Case 2, for example, presented both these phenomena — general tenderness with pain on deep pressure, as well as a highly characteristic extension of pain down the neck and between the shoulders. Vomiting is very characteristic when associated with the headache of cerebellar disease, but vomiting is that one of the three cardinal symptoms which may be absent. The third feature, optic neuritis, is a *sine qua non* to establish the diagnosis of cerebellar tumour. The neuritis may be more marked in one eye than the other, and Dr. Jackson has stated that it is commonly more marked on the side opposite the tumour; but there is no constant relation between the

degree of choking of the disc and the side on which the tumour lies. Hence the difference in degree is of little or no value as a localising sign.

The *special symptoms* of cerebellar growth may be briefly stated as follows :—

First, disturbance of equilibrium, or the so-called cerebellar ataxy. This was well seen in the three cases already detailed; Case 1 fell backwards towards the right, Case 2 fell towards the left, and Case 3 was unable either to stand or walk. This opens up the question whether the direction of falling indicates the side on which the new growth lies. I think one may say at the outset that there is no hard and fast rule in this respect. Some observers have stated that the patient falls to the side of the tumour, while in other cases falling takes place to the opposite side. And clinical experience is confirmed, if one examines into what has been observed in monkeys in which half of the cerebellum, or a lateral lobe, has been removed. At any rate, so far as I have examined the matter myself, monkeys in which one lateral lobe has been removed fell to one side or the other. But if the cerebellar peduncles were divided, then rolling movements were observed invariably towards the side of the lesion ; that is to say, that if, for example, the left middle peduncle was divided, the monkey performed a series of rolling movements, round its long axis towards the left. If, therefore, a person presented distinct rolling movements, or, if there was a tendency to roll invariably to one side, the movement would be to the side of the lesion. It is, however, rare to find rolling movements in cases of tumour, owing probably to displacement rather than to destruction of the adjacent tissue. It is, however, theoretically possible for such movements to occur in man as the result of a sudden vascular lesion, such as thrombosis or hæmorrhage.

It is an old-established doctrine that cerebellar ataxy does not occur in lesions of the lateral lobe unless the middle lobe is also involved. This, however, is not invariably the case, because we undoubtedly find cerebellar ataxy as the result of lesion of the lateral lobe in cases in which the middle lobe is quite unaffected. Experimentally also there is found, as the result of removal of the middle lobe, no more marked phenomena than after removal of a lateral lobe.

The explanation of the lessened degree of cerebellar ataxy in unilateral lesions is probably this, that a tumour involving the lateral lobe rarely destroys more than a small part of it, while a tumour involving the middle lobe destroys that part to a considerable and even complete extent. For instance, in the specimen I hold in my hand, there is a large tumour implicating the middle peduncle and the left lateral lobe inferiorly, but there is still much of the lobe unaffected. If a tumour of this size were lying in the middle lobe, the greater part of the lobe would be destroyed, as indeed was observed in Case 3; and I submit that this explains the fact that in lateral lobe tumours, ataxy has not been observed so frequently as in middle lobe tumours. If, however, the lateral lobe be excised experimentally, there is found as marked ataxy as in destruction of the middle lobe.

Secondly, tremors of the arms. It is unnecessary to dwell upon this point to any extent, because the tremors are rarely seen in man, and I believe for the reason that the lateral lobe is rarely sufficiently destroyed by tumour-growth. If, however, the lateral lobe of an animal be excised, tremors and oscillations, such as are seen in disseminated sclerosis in man are detected. Such tremors and oscillatory movements are upon the side of the lesion; and in those cases in man in which I have seen them, the superior cerebellar peduncle was probably implicated.

Thirdly, it is necessary to refer briefly to hemiplegia and hemiparesis occurring in cerebellar disease, because their existence is a moot point. It used to be stated that hemiplegia or hemiparesis never occurred from affection of the cerebellum alone, but was a pressure symptom; but more recently it has been stated that they occur from lesion of the cerebellum, as such, and that if they are present, they are important as localising agents. If half of the cerebellum, or one lateral lobe, be removed in a monkey, hemi-paresis does not occur, so far as I have been able to observe the matter in experiments made in conjunction with Dr. Ferrier. Monkeys with a cerebellar lobe removed were able to hold on quite as vigorously to a bar or to one's hand with the limbs on the side of extirpation as on the opposite side; yet it has been stated by other experimenters (Luciani and Russell) that weakness results on the side of the lesion. Notwithstand-

ing this, the presence of hemi-paresis in cerebellar tumour, should be looked upon as a pressure symptom. Its existence upon the side of the lesion is readily explained by stating that it is the pyramid on the side opposite the lesion which undergoes pressure against the hard non-resilient bone of the base of the skull.

Fourthly, the state of the knee-jerks. In Case 1 there was a distinctly defective jerk on the right side, and in Case 2 on the left side; in both cases on the opposite side the jerk was normal. In Case 3 both jerks were equally exaggerated.

The existence of defective knee-jerk, when the symptoms of tabes dorsalis may be excluded, is suggestive of a tumour in the posterior fossa of the skull. But the state of the knee-jerks in tumour of the cerebellum, or indeed in tumour involving the posterior fossa, is an uncertain quantity. In many cases of cerebellar tumour there is no knee-jerk on either side; in others both are increased, while in others again, one is present and the other absent. Experimentally, removal of the whole of the cerebellum causes exaggeration of the knee-jerks. If one lateral lobe be removed, I have found no material difference, but later on exaggeration on the side from which the cerebellum has been extirpated. Russell found that when he removed the lateral lobe of the cerebellum in dogs, he obtained an exaggeration of the jerk on the side of the lesion, and a great diminution on the opposite side; but whether this may be applied, *mutatis mutandis*, to cases of cerebellar tumour in man requires confirmation. As already stated, tumours in the posterior fossa influence in so many ways the physiological conditions of this region, owing largely to the fact that they are bound down in a tight space, that I prefer to postpone the consideration of the diagnostic and localising value of this symptom, until verification from *post-mortem* examinations has been obtained.

The symptoms of *localising* value are found in the associated cranial nerve palsies. Palsy of the sixth nerve; more commonly, palsy of the eighth nerve, indicated by deafness; and, of great localising value;—palsy of the fifth nerve, *e.g.*, anæsthesia over its distribution, the so-called neuro-paralytic keratitis, and sometimes motor trigeminal palsy. The point of importance in connection with such symptoms is, that they

indicate the side on which the tumour is situated. Motor or sensory trigeminal palsy on one side, with symptoms of cerebellar tumour, point conclusively to a growth involving the middle cerebellar peduncle on the side of the palsy; and this is of far greater localising value than the side to which the patient falls, the state of the knee-jerks, or the existence of hemi-paresis.

The diagnosis of cerebellar new growth having been established, it is natural to ask what may be done to relieve the symptoms, for unless the condition is of syphilitic nature, little can be done towards a cure. In this connection, it should be borne in mind that syphilis rarely affects the cerebellum, its blood vessels or membranes. Cerebellar new growth in children is most commonly tuberculous; in young adults tubercle or glio-sarcoma. Our endeavours are, therefore, given over to the relief of symptoms, the most troublesome of which is headache, and to avert the tendency towards blindness arising from the inflamed and choked condition of the optic discs. As both these symptoms arise, in large measure, from the increased intra-cranial pressure associated with the growth of the tumour, a ready means of relief lies in the removal of a disc of bone, an operation which was performed in two of the cases narrated in this lecture. It seems preferable to apply the trephine over one or other cerebellar hemisphere, quite independently of the possibility of finding the new growth. If, however, there exists clear evidence of the presence of the growth on one side, the bone should be removed from over the corresponding lobe. I have not found it necessary to incise the dura mater, a restriction which necessarily prevents the onset of hernia of the brain. Horsley prefers to perform the operation in two stages, the preliminary trephining being followed a week later by incision of the membrane. So far as I have been able to watch the effects of such operation, entire relief from headache has, at all events for a time, been obtained; while the optic neuritis has undoubtedly been modified in severity, an observation also recorded by James Taylor, Bruns and others; and it it is not improbable, although I am unaware of any observations on this point, that the tendency to sudden death, so common in cases of intra-cranial, and more especially cerebellar tumour, may be averted by such an operation.

NOTES ON A CASE OF INFANTILE SCURVY.

By J. Herbert Menzies, M.R.C.S., L.R.C.P.

I am tempted to read the notes of this case, for it presents all the classical signs of a rare and interesting disease, which has not, I think, previously been under notice of the Society.

The patient, E. H., was an infant, 11 months old, the younger child of healthy, well-to-do parents, living in Kensington. He weighed 9 lbs. 12 ozs. at birth, and was always healthy and bright, having had no illness till I was asked to see him on February 8, 1896. I was then told that he had been cross and fretful for the previous week or so, and on the day before the left eye suddenly swelled, and was slightly discoloured. There was no knowledge of an injury. The child was well grown, but pale, fat and flabby. He was irritable, and evidently ill. The fontanelle was closed. No beading of the ribs, no collapse of the chest wall, and no enlargement of the long-bone epiphyses could be made out. There had been no head sweating, nor laryngismus. There were five healthy teeth.

Two days afterwards, February 20, he presented a very characteristic appearance. The pallor had increased, he lay in a listless condition, screaming when moved. There was marked proptosis of the left eye, downwards and forwards, with extensive ecchymosis, and the upper lid swollen and bulged. The right leg was swollen and tense, but without heat, redness, fluctuation or pitting. The limb was exquisitely tender, lying everted and immobile in a state of pseudo-paralysis. The foot was œdematous, but the neighbouring joints were free. The leg measured 8½ inches round its centre, and its fellow 7½ inches. The gums were swollen and purple, and there was a small bruise over the forehead. The diagnosis being clear, an anti-scorbutic dietary was ordered. He was kept lying in bed near the fire with the windows open.

February 21.—The child had had a very restless night; the leg swelling had increased to 9¼ inches, being 1¾ inches larger than its fellow. There were bruise-like ecchymoses over both knees, and a well marked hæmatomatous swelling over the sacrum. The proptosis was less, but a small con-

junctival ecchymosis had occurred, and discolouration of the other eye was evident. There were one or two minute purpuric spots on the face. The gums were more swollen and spongy, the teeth of the upper jaw being almost hidden.

The next day, February 22, the child was distinctly better, the leg swelling had diminished by ¼ inch, and the proptosis had disappeared. No more hæmorrhages took place.

The symptoms now gradually disappeared, as if by magic, and on February 27 no traces of the limb swelling remained, the limb was no longer tender, and the child did not cry when moved. He was kept in horizontal rest for a fortnight, and at the end of a month all signs of the illness had vanished. He was of a ruddy colour, muscular strength was restored, and he was able to sit up and crawl about, happy and cheerful, taking food well.

Let us consider the cause of the illness, and for this the history of feeding is characteristic. The child was suckled for the first month, and then was given sterilised milk and barley water up to six months old, when Savory and Moore's food was added; this latter was gradually increased, and when seen (11 months old) he was taking two pints of sterilised milk per diem with the food added.

The anti-scorbutic foods ordered were one and a-half pints of fresh cow's milk unboiled, a tablespoonful of sieved potatoes beaten up with the milk, a tablespoonful of raw meat juice freshly prepared, and the juice of an orange. The child took greedily to its new food, and a striking result has been seen.

Now I think this case presents some features of interest: (1) The sudden onset of the disease in a child otherwise robust, and without any positive signs of rickets. (2) The remarkably rapid disappearance of the lesions, which were all hæmorrhagic. (3) The danger of a prolonged use of sterilised milk and the artificial foods—in a word, the absence of what Dr. Barlow has termed "a living food."

The disease is one of modern history. From 1856 onwards cases were frequently reported in German medical literature, and described as "acute rickets." So far back as 1873 Dr. Ingersler, a Swedish physician, had suggested the scorbutic nature of a case under his care, but Dr. Cheadle was the first to identify the disease and trace its origin in a scorbutic diet.

In 1878 he published[1] three cases under his care, and he has since writien upon the disease more fully.[2] Dr. Barlow,[3] however, in 1883 drew special attention to the subject before the Royal Medical and Chirurgical Society, and later on in the Bradshaw Lecture of 1894[4] dealt most ably and exhaustively with the disease in all its aspects. He there particularly insists on its separate existence from rickets.

After fully detailing the morbid anatomy of the disease, he says, "Rickets, *per se*, does not (so far as our own experience goes) lead to these hæmorrhages. If it were so, considering how common a disease rickets is, surely these hæmorrhagic cases would be more frequently met with.

"Scurvy, we know from experience, in adults, is adequate to the production of such hæmorrhagic lesions. If, then, in our infantile cases, the blood change due to scurvy comes into operation, the rickety change already present may act as a physiological determinant of the sites in which scurvy becomes manifest."

This view of its pathology is also supported by Drs. Cheadle, Eustace Smith, Gee, Goodhart, Sutherland and others in this country. But the most remarkable confirmation comes from America, where the first case was reported in 1889, and since then 106 cases had been reported to the New York Academy of Medicine at the beginning of 1894 by numerous observers, and especially by Dr. Northrup.

Has there been anything noteworthy in the feeding of infants of later years? Yes, undoubtedly. Besides the increasing difficulty of getting the mothers to suckle their own children, there has been an enormous increase in the production of artificial foods and sterilised milks. And this leads us to a very striking feature of this disease, viz., its more frequent incidence in the children of the rich than of the poor. The explanation is probably twofold:—(1) Rich parents can unfortunately afford to buy these proprietary foods, and (2) poor parents, even when they use condensed milk, which is not anti-scorbutic, give their children a mixed

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[1] *The Lancet*, vol. ii., 1878, p. 685.

[2] "Artificial Feeding of Infants."

[3] *Royal Medical and Chirurgical Society's Transactions*, vol. lxvi.

[4] *The Lancet*, vol. ii., 1894, p. 1075.

diet at a much earlier date than rich people do, thus favouring rickets, but averting the dangers of scurvy.

It remains a curious fact that the German School still lingers on its first diagnosis of "Acute Rickets," and my friend, Dr. G. A. Sutherland, tells me that recent writers in that country and in Denmark continue to set aside the scorbutic element of the disease.

Many of the German School insist also on the epidemic doctrine of scurvy, and hypothetically look to a micro-organism as an efficient cause. Of this, at present, we have no evidence. Sporadic cases occur, and although the chemistry of scurvy is not yet fully made out, still it seems evident that there is an absence from the blood of some constituent whose presence is essential to health. Therefore, while not denying that rickets may be co-existent, and indeed very frequently is so, it is enough for us as clinicians to know that the improvement which follows the administration of anti-scorbutics is one of the most remarkable facts in the whole range of medicine.

It is our duty to sound an alarm against the prolonged use of these artificial foods and sterilised milks. I do not mean that they are intrinsically harmful, but it is their long-continued use which is so dangerous. Infantile scurvy rarely develops before the eighth month of life, so that if, for other reasons, these foods are necessary, it is essential to supply the inadequacy of "living food." In this case I regard the sterilised milk as the greater cause of the trouble.

Dr. Cheadle and Dr. Barlow have both pointed out that the boiling of cows' milk, and prolonged sterilisation, especially at high temperatures, in some degrees lessen its anti-scorbutic quality, and this case fully bears out that suspicion.

I am aware that I have only touched the fringe of my subject, which so teems with interest, but I hope I may have said enough to put us all on the *qui vive* for the initial symptoms of this disease, for indeed "Felix qui potuit rerum cognoscere causas."

Addendum.

Since the above notes were written, the following analysis of the "Excel" sterilised milk used in this case has been made and published by the *Lancet*, May 16, 1896:—"On

opening the bottle, this milk was found to be in an excellent state of preservation, although it had been standing in a warm part of the laboratory for over two months. It was sweet and sound to the taste, and had undergone no objectionable alteration.

"Our analysis gave the following results: total solids, 12·48 per cent.; solids not fat, 9·48 per cent.; fat, 3·0 per cent.; and mineral matter 0·72 per cent. It was free from objectionable antiseptics, and, as will be gathered from the above results, is of uniform and good quality."

THE TREATMENT OF WHOOPING COUGH.

By Sidney A. Bontor, M.D., M.S.Durh.

I am afraid this subject which I am bringing forward for discussion this evening is not a particularly inviting one, for whooping cough is one of the most unsatisfactory infantile diseases with which we have to deal. Every now and then a so-called "specific" is introduced, and our hopes are raised only to sink again lower after trying the vaunted method; for each "specific" seems to fail as soon as it receives extended application, while a mere enumeration of the drugs which have at one time or another been prescribed for the disease would occupy nearly all the time which is alloted to the reading of this paper. It is as well, therefore, that I should assure you at the outset that I do not propose either to pass in review all the methods of treatment which have been advocated, or to introduce a new specific; my object in bringing the subject forward to-night is rather to suggest a modification in the principles of treatment.

Whooping cough is an extremely fatal disease; ever since we have had trustworthy records to which we can refer, we find that the death rate has been extremely high, and what is even more significant and important—the death rate is nearly as high now as it was thirty years ago, the number of deaths attributed to it in England alone amounting to about 12,000 each

year. These are facts which show that, however uninviting the subject may be it is none the less one of very great importance. Certainly one cause of this high death rate is, that among the poor the disease is regarded as a neccessary evil, and by them a child is as much expected to escape the whooping cough as it is to escape cutting its teeth, and the result of this is, that children suffering from it, are freely exposed and allowed to mix and play with those who are unaffected by it, with the natural consequence that if it enter at one end of the street in a poor neighbourhood, it rarely stops until it has passed right through to the other end; and as the majority of poor people do not think it necessary to call in medical assistance until the illness has taken a serious turn, or some complication has arisen, many lives are lost which might have been saved, had the patients received earlier attention; consequently the medical profession cannot be blamed for the whole of this great mortality. Yet among those who are treated from the commencement, the loss of life is also very great, too great indeed for us to be able to regard the subject of whooping cough with anything but sadness, and I hope that during this evening some suggestions may be made which will tend towards a happier result. As I have already said, the subject is not an inviting one, and I fear when any of us has a case of whooping cough to treat he takes rather a hopeless view of the treatment, and is content to go on in the old grooves; and yet from the large number of cases which occur every year a great amount of experience ought to be, and must be, accumulating.

Now the object which I have in view is to consider the lines upon which the disease should be treated—by this I mean the special lines applicable to this special disease, and I therefore do not propose to discuss the question of prophylaxis, or the desirability or otherwise of compulsory notification. For the same reason I shall not enter into the questions of the general treatment by hygienic surroundings, diet, exercise, &c.; these are points which apply with equal force to all diseases of a zymotic nature, and although even fresh air itself has been advocated as a specific for whooping cough, and it has been suggested that patients suffering from this disorder should be constantly in the open air from dewy morn to dusky eve, what ever their previous habits, and whether they have a simple

attack or have also the complications of bronchitis or broncho-pneumonia, I feel personally that these are questions which cannot be dogmatically insisted upon, and that each case must have these things individually regulated, in fact—that we must treat the patient as well as his disease.

Before however we can formulate a line of treatment, we must consider the pathological and clinical aspects of the illness. Whooping cough is a disease characterised by a catarrh of the air-passages, with a peculiar spasmodic cough, and frequently having complications, the most important of which are atelactasis, broncho-pneumonia, pleurisy, convulsions, intestinal catarrh and tuberculosis; *per se*, it is not a particularly fatal disease, but through its complications it does, as we have already seen, cause an immense number of deaths.

Formerly it was regarded as being due to merely a catarrh of the air passages, but by the majority it is looked upon now-a-days as a microbic disease, although the evidence upon which this opinion is based rests rather upon clinical than bacteriological grounds.

Many observers have endeavoured to isolate the specific organism which is the cause of the trouble. The first to describe what he considered to be the true bacillus of whooping cough was Letzerich in 1870; but on further investigations it was found that he was mistaken. Since then many other observers have gone over the same ground, notably Affanasifer in 1887 and Ritter[1] in 1892, the former of whom cultivated a short bacillus which grew with well-marked characters, and which, when inoculated into the tracheas of animals, produced a catarrhal condition of the mucous membrane; while the latter described a diplococcus which was invariably present in the mucus from the lower portion of the trachea, and which, when inoculated into the necks of dogs, produced the disease in them. Subsequent investigations, however, especially those of Cohn and Neumann in 1894,[2] led to the conclusion that no organism has yet been isolated which has characteristics sufficiently pronounced, or an influence on animals sufficiently marked to enable us to regard it as specific—in fact I think we may

[1] Ritter, *Munich Med. Wochenschrift*, November, 1892.

[2] Cohn and Neumann, *Archiv. f. Kinderheilkunde*, vol. xvii., p. 24.

safely say that the bacteriology of whooping cough is practically unknown, and merely a matter of speculation at present.

If, however, we consider the clinical evidence, we must feel certain that whooping cough has a specific origin, for it has all the characteristics of a zymotic disease; it occurs in epidemics, has an incubation period, runs a definite course, is highly infectious, and confers immunity from subsequent attacks. There are some who still doubt its microbic origin, however, and regard it as due solely to a neurosis; but although the paroxysms of coughing are doubtless due to a disturbance of the nervous mechanism, it is probable that this is only a secondary condition, and that the primary cause of the disorder is the influence of micro-organisms, whose products are the cause of the nervous disturbance.

In all diseases having a zymotic origin, a general train of symptoms is produced, of which the following is an outline. The microbe is introduced into the system, but is unable to infect it at once; when in a suitable soil, however, it develops and multiplies until it is sufficiently powerful to infect the system. This period of development is the incubation period, and the systemic infection is evidenced by a rise of temperature, loss of appetite and other manifestations. Then the bacilli, after arriving at the fulness of their power, are gradually exterminated, the clinical thermometer fairly indicating the amount of their activity during this active period, or after their extermination various toxic effects become manifest, varying according to the nature of the organism which causes them; later still, when the toxic agent is no longer being produced, these effects wane and die out, and the patient gradually returns to health, or he may fall a victim to the attack at any period of the illness except the incubation period.

This is exactly what happens in whooping cough; an interval of about twelve days elapses after the disease is contracted before any symptoms are produced, then the temperature runs up, the patient feels ill, and there is a catarrh of the respiratory mucous membrane; this condition continues for about a week or ten days, when the temperature falls again, the catarrh begins to disappear and the patient appears to be getting well. He does not do so completely,

however, and as the temperature falls the cough, which previously had been unimportant, becomes paroxysmal and more troublesome, and finally assumes the whooping character which is peculiar to the disorder, and which continues for about six weeks, showing, as a rule, a tendency to gradual decline; in fact we have the same periods as occur in a disease of microbic origin—the period of incubation, of microbic activity, of toxic effect and of decline as the supply of the toxic products become less, the peculiar toxic effect in this instance being the affection of the nervous mechanism whereby it is rendered so excitable that stimuli, which would ordinarily have but little effect, are now sufficient to produce those paroxysms of coughing which characterise the disease.

If this be accepted as the proper view of the pathology of whooping cough, it will assist us in deciding how to treat the disease, but before we consider the treatment there is another point to which I should like to draw attention. An analysis of fatal cases of whooping cough shows that the majority of deaths are due to one or other of the complications which occur, but if we think for a moment what those complications are, we shall see that the majority of them are due directly or indirectly to the paroxysms of coughing, and consequently, if we can check the paroxysms we shall avoid complications, and therefore be able to steer our patient safely through his attack.

Now if we take any modern text book on medicine, the line of treatment which is described is generally after the following plan. During the first stage an expectorant, diaphoretic, mixture is prescribed, with rest in bed and a light diet. During the second or paroxysmal stage the patient is allowed to get up and perhaps go out of doors, his diet is varied according to the severity of the cough, and medicines are advised which act as respiratory sedatives, frequently recommended to be combined with antiseptics, while various antiseptic drugs are recommended for local application, and the rooms which the patient uses are fumigated frequently so that he respires an antiseptic atmosphere. During the third stage tonics and cod liver oil are advised, with plenty of fresh air and nourishing food, while the antiseptic applications are to be continued; in fact, so vigorous has the antiseptic treatment of the disease

become, since it has been recognised as having a microbic origin, that almost the whole antiseptic artillery of the pharmacopœia has at one time or another been discharged at the mischief-working bacillus, which lies safely hidden in the protecting folds of the mucous membrane. It has been bombarded with the antiseptic atmosphere, fired at at long range with the antiseptic spray and at short range with the antiseptic insufflator, charged at close quarters with the antiseptic swab, and pursued into the depths of the trachea at the point of the antiseptic throat-brush—but all in vain; it successfully defies them all, for by the time they are brought into action it has gained the ambush of the general circulation, and is able still to claim its victims by thousands every year.

Putting it then very briefly, the usual mode of treatment may be thus summarised:—In the first stage, practically nothing; in the second stage, nerve sedatives, with antiseptics internally and locally; in the third stage, tonics and antiseptics.

Now if the pathology which I have described be accepted as correct, this line of treatment does not quite meet the case, for the time to use our antiseptics is the early stage, in fact the earlier they are used the more likely are they to be of service, since the first symptom is a definite indication that the system is already invaded, and if antiseptics will ever do any good then is their opportunity, whereas if they are withheld until the later stages they will probably be of but little service because by that time the patient will be suffering but little from the bacteria themselves, but from the action of their products, upon which antiseptics have but little or no effect. For these reasons then I would suggest that, failing an efficient antitoxin, the first stage should be treated with antiseptics and treated vigorously so far as can be done with safety to the patient, for we must not forget that we have a prolonged illness to look forward to; and, if in spite of this treatment, the disease runs its course into the second stage and indicates the cessation of further local bacterial activity, the temperature reaching normal again, antiseptics should be abandoned in favour of measures calculated to maintain the patient's health and check the paroxysms of coughing.

This last is not an easy indication to follow because we do

not know in what portion of the neuro-muscular apparatus the lesion is situated, or how the nervous tissue is affected, but it is probable that the whole reflex mechanism of the respiratory area is in a condition of exaggerated excitability, and consequently respiratory nerve sedatives have an undoubted effect in allaying the spasms. But while recognising that in severe cases where the paroxysms are very frequent or severe their use may be of great value, I feel that as the disorder is one with a natural tendency towards amelioration, their routine employment is open to question; if they acted as sedatives only, the objection to their employment would be small indeed, but unfortunately all of those which are of any practical value have ulterior effects upon the system which are decidedly harmful and which should be avoided if possible. Their chief action is upon the circulation of the parts affected through the nerve-centres, and the effect they produce is so to deaden the sensibility of these centres that they respond less readily to the stimuli which they receive; if, however, instead of acting upon the centres themselves we could act upon the afferent nerve endings so that they did not transmit the stimuli to the centres, we should bring about an equally good result, and if we could do this by the employment of agents having no dangerous elements it would certainly be advisable to substitute their use for that of the drugs which are usually relied upon; but can this be done? We know that local anæsthetics, &c., have been applied in various ways and that however correct their employment may be in theory, in practice they have not succeeded. I have never endeavoured, as M. Herff and others have done, to examine the larynx with the laryngoscope during a spasm of coughing, but I have watched very carefully a large number of children suffering from whooping cough and I agree with the conclusion at which he arrived—that the actual excitant of the spasm is a pellet of mucus secreted in the larynx or trachea. This is justified by the facts that a paroxysm being once started it rarely ceases until the mucus is expectorated or ejected by vomiting, and that after the mucus is removed the child can eat, or run about without bringing on another spasm. But as soon as a fresh collection of mucus has formed these actions will induce fresh paroxysms, and this cannot very well be explained by the theory that the reflex nervous excitability

is exhausted, because if the mucus is tenacious, attack after attack of coughing takes place until it is ejected.

From this consideration we may find an explanation of how anæsthetics locally applied do not cut short the attacks of coughing. This is because the mucus, which is lying upon, and by its agitations stimulating, the subjacent nerve endings, prevents the application from reaching the site of the stimulation, and therefore it would seem that the most desirable thing is the removal of this mucus. For these reasons I would suggest a modification of the usual method of treating this stage, and instead of a routine employment of nerve sedatives would recommend that they be reserved for severe cases, while the routine treatment should be directed to building up the patient's strength to the highest pitch by the exhibition of tonics, &c., and that with them expectorants should be combined with the view to keeping the secretions "soft," while a local application should be made calculated to deaden the sensibility of the peripheral terminations of the nerves and at the same time assist in detaching the mucus. In seeking for such an application as this, one suggested itself to me with which we are already familiar in connection with catarrhs of these areas—I refer to a solution of menthol in liquid vaseline.

Menthol, we know, has a definite action upon nervous tissue, it is most useful in relieving cases of pain due to increased sensibility; for instance, in neuralgia and in the pain of peripheral neuritis, and it has also a decidedly benumbing effect upon the terminal sensory nerve filaments, while the only effect it would be likely to produce, if absorbed, would be a beneficial one, for if taken internally it acts as an antispasmodic. It is used with benefit in relieving the spasms of hay fever, which is itself a reflex neurosis accompanied by a catarrh, and we know that in this condition its action is improved and the mucus most easily removed when it is combined with an oily menstruum, hence it seemed to me that such a solution might be expected to meet the indications for treatment which I have given.

So much, then, for the first and second stages; with regard to the third I have little to say; nothing can be better than the tonic plan of treatment usually adopted, which will restore our patient to health as quickly as possible; it may be

remarked, however, that if the pathology given here is correct and the indications for treatment of the first and second stages efficiently met, the cases of prolonged debility which occur so frequently after whooping cough may be expected to become considerably diminished in number.

I have carried out this line of treatment in forty cases, most of them selected on account of their severity, and the result has been most satisfactory; in thirty-nine of them the benefit was decided and in only one did the spray seem to have no effect, this, however, was a case complicated by acute bronchitis. One patient died, a weakly infant of only seven weeks, the immediate cause of death being convulsions in the third week of illness; in two the spray was not persevered with, although the paroxysms were relieved by it, because not having very severe attacks the parents thought the little smarting of the eyes an unnecessary infliction.

The manner in which the spray has been directed to be used is this: About 20 grains of menthol are dissolved in an ounce of liquid vaseline in an ordinary nasal spray-producer; as soon as a paroxysm commences, or preferably as soon as the patient feels that one is impending, a fine cloud of spray is diffused in front of the face, the spray-producer being held about two feet away, by this means the air in front of the nose and mouth is saturated with the oily particles, and at each inspiration they are drawn into the air passages; this is quite painless, but occasionally a slight spasm of the glottis occurs. The effect of this inhalation is quickly seen, for the mucus is rapidly expectorated and the paroxysm is soon over, so that convulsions are less frequent and vomiting is rare, with the result that the patient loses his dread of taking food and eats with a better appetite, his general condition being thus kept at a much higher level—in fact among my forty cases there were none of prolonged debility, none followed by gastro-intestinal catarrh and none at present with tuberculosis. I do not wish, however, to claim that this result is wholly attributable to the form of treatment, because I practise in a healthy country district where the tubercle bacillus does not flourish and where the death rate is naturally low, but the results among patients in the same district treated by other methods have not been so satisfactory.

The following are brief notes of some of the most severe cases.

(1) L. P., female, age 18 months, was in third week of bad bronchitis; paroxysms frequent and severe, usually followed by vomiting; no appetite, patient almost comatose. Ordered a stimulating expectorant mixture and menthol spray. Paroxysms much less severe, bronchitis cleared up and the patient made a good recovery.

Three older children in same house with whooping cough, found so much benefit from the spray that they sprayed themselves whenever an attack was felt to be coming on.

(2) J. P., male, age 13 months; severe attack. Ordered expectorant with iron mixture and spray; derived so much benefit that the mother took the spray in the perambulator and used it in the street.

(3) H. A., male, age 4 weeks; extremely ill, vomiting nearly all food; appetite very bad, convulsions; ordered a carminative spray, no convulsions afterwards; paroxysms much less severe, vomiting less, good recovery.

(4) L. M., male, aged 4 years; paroxysms not very frequent but severe, so that hæmorrhage from nose and throat occurred after each; ordered stimulating expectorant mixture and spray, no further hæmorrhage; good recovery.

(5) J. S., male, age 14 months; severe attack, convulsions frequent three or four a day; ordered expectorant mixture with pot. brom. and the spray, only one convulsion after; good recovery.

(6) H. D., male, age 13 months; a similar attack to J. S., borrowed the spray and no further convulsions; good recovery.

These are enough, I think, to indicate that in practice the theory does at all events receive some support, and I will now summarise my contentions.

With regard to the pathology. (1) Whooping cough is due to a micro-organism. (2) That the paroxysms are due, not to the organism, but to a toxic product of its development. (3) That the actual excitant of the spasm is the mucus.

With regard to treatment. (1) For the treatment of prodromal or early stage, antiseptics. (2) For the second stage, tonics and expectorants, with a local application calculated to deaden the peripheral nerve filaments and assist in detaching the mucus. (3) For the third stage, tonics.

SOME EFFECTS OF CHRONIC NASAL OBSTRUCTION.

By Mayo Collier, M.S.Lond., F.R.C.S.Eng.

Late Vice-President of the British Laryngological and Rhinological Association.

In the short paper I propose to read before you this evening I shall not weary you with the well-worn and well-known subject, "The Various Conditions found associated with and constituting Chronic Nasal Obstruction;" still less shall I deal, or venture to deal, with the remedial measures applicable to those conditions. I shall ask you to look with me and follow me to a more scientific, and I trust none the less interesting, aspect of the troubles.

You are aware that the normal nasal cavities are separated from each other by a perfectly vertical septum, that each nasal cavity is symmetrical with its fellow, and that a free stream of air should be capable of passing through the lower half or respiratory area of these cavities sufficient to supply the lungs with warmed, moistened and filtered air, and to maintain the respiration of the body in comfort.

No one, as far as I am aware, has ever been tempted to suggest that the proper and only physiological portal to the lungs is other than the nose, nor in fact can one deny that the respiratory area, or lower half of the nasal cavities, is as much the highway to the lungs as the trachea. This being so, it seems almost incredible that nine out of every ten civilised human beings have some contraction, narrowing, or obstruction to this great portal and highway to the lungs.

The numerous records and statistics tend to show that obstruction is seldom or never congenital; that it is rare under 10 years of age, becoming more common after puberty; that nine of every ten civilised persons have some irregularity or abnormality in the nose, and that four out of five savages, aborigines, or uncivilised beings have normal nasal cavities.

Now the question before us to-night is, Why is this so? Can you explain to us the cause or reason of all this? "Vere scire est per causas scire."

I would like first to direct your attention to a few anatomical

points in connection with the external nasal organ. The nose, or external nasal organ, is a double valve which, without living structures to regulate and preside over its openings, would admit the passage of air only in one direction, namely, in expiration. Proof of this is afforded in deep chloroform narcosis, some cases of hemiplegia, lesions of the facial nerve, and other states. The muscles presiding over these openings are numerous and well marked, and I would direct your attention to the great difference in the power and number of those that open the valve during inspiration to those used in closing the same.

In infants and young persons the conformation of the nose is entirely different from that in adults. Up to 10 years of age the nose is mostly hood-shaped and slightly *retroussé*, and the anterior nares and nasal fossæ wider in proportion than in adults. As growth takes place the face lengthens, the nose becomes longer, and the openings of the anterior nares assume a position below the floor of the fossæ; the fossæ became narrower on account of the development of the turbinated bones; added to all this a marked increase in the *erectile* and spongy tissue found on the two lower spongy bones, the lower half of the septum and the floor of the nose, is coincident with the period of development between puberty and adolescence. These are important facts that will help us to explain why some stenosis of the nasal cavity is so common.

In the development of chronic nasal obstruction there is an oft-repeated state of temporary nasal obstruction, and this temporary nasal obstruction, from whatever cause, tends to grow into and produce chronic nasal obstruction with all its consequences. You can quite believe that a cold in the head, so-called, may affect a normal nasal cavity and produce obstruction from turgescence of one or both turbinated bodies. You can quite believe that a blow on the nose from a fall or other injury may temporarily annul, or place in abeyance, the power of the dilatoris nasi to keep the valve open during inspiration on one side or both. You can quite imagine many other causes or agents capable of dilating the mucous and erectile tissue of the nose, and so leading to obstruction on one or both sides.

Now my contention is this, block up one nostril for a

shorter or longer time, or on oft-repeated occasions, and let us note what must be the inevitable result.

The result will vary according as your subject is awake or asleep. When awake he can co-ordinate so far, that by depressing the tongue in the floor of the mouth and raising the soft palate, air can enter and equilibrate that in the lungs during inspiration, but not that in the closed nasal fossa. The rush of air passing under the naso-pharynx, and to some extent through the naso-pharynx, through the other open or partially open nasal cavity, will lessen the tension of, and exhaust the air in the closed nasal cavity. The very sprays you use in every day life are illustrations of this fact.

The wind, however gently it blows over the tops of your houses, draws out and exhausts the air in your chimneys, and so further exhausts and ventilates your dwellings. The simplest experiments will, however, convince the unbelievers.

If a bent piece of glass with mercury in the bend be connected by a fairly thick elastic tube and inserted into the nostril, during every inspiration the mercury will fall in the one limb, and rise in the other to the extent of perhaps one inch or more. Now, what is the value of this observation, and how does it apply?

It applies in this way, that it proves without doubt that the stream of air passing out of the one nasal cavity into the lungs exhausts the air in the closed nasal cavity to the extent of one inch of mercury more or less, and the value of the application is that now it is impossible for you or anyone else to deny that if one nostril be blocked up, from whatever cause, that the air in that nostril is rarefied by the inspiratory act, and if rarefied the walls of that box are subjected to a pressure exactly in proportion to the amount of rarefication.

For illustration, let the rarefication be equal to a fall of an inch in the column of mercury in the manometer.

Well, the total weight of the atmosphere equals about 29 inches of mercury at sea level, and exerts a pressure of something like 15 pounds on every square inch. One inch of mercury will then be equal to a pressure of about half a pound on every square inch.

I pointed out that the average area of the septum could be taken as nine square inches, so that we see from that that the

comparatively large force of four and a half pounds may be exerting itself at every inspiration, not only of the thin septum, but on every side of the nasal fossa, hence the pinched and approximated upper maxillary bones in cases of long standing nasal obstruction; on the palate, hence the high arched palate and irregular dental arch with crowded teeth; on the soft palate, hence the lessened pharyngeal and post-nasal space and the tendency to breathe entirely by the mouth, and many other attendant consequences. I say the force is more than sufficient even when halved, quartered, or divided by ten, to account for all the damage done and distortion produced in the bony walls of the nasal fossæ.

The constant dropping of water will wear away the hardest rock, so a constantly slight pressure will bulge in the sides of the strongest living cavity.

During sleep more damage is done than during consciousness. Oral respiration is effected by powerful inspiratory efforts lifting the soft palate every time, so increasing the rapidity of exhaustion of the naso-pharynx by diminishing the width of the stream and consequently increasing the exhaustion of the closed nasal cavity.

In corroboration of my contentions, I will read to you a few lines from Ziem's book, putting before you the result of his experiments in artificially blocking the nostril in young animals. Ziem has proved that every obstruction of the nose exerts widely-spread consequences on the development of the skull in young animals, one of whose nostrils he completely blocked for a long time.

There was a deviation of the intermaxillary bone and the sagittal suture towards the shut-up side, also lesser length of the nasal bone, of the frontal bone, and of the horizontal plate of the palate bone, less steep elevation of the alveolar processes, smaller distances between the anterior surface of the bony auditory capsule and the alveolar processes, also between the zygomatic arch and the supra-orbital borders; and smaller size and asymmetrical position of the vascular and nerve canals on the closed side of the nose.

The distance of the two orbits from the middle line was unequal, which, as has been observed in men, leads to asthenopia, astigmatism and strabismus; or in other words, the whole side of the face was squeezed in from all points by

the unequilibrated atmospheric pressure due to the rarefication of the air from within the obstructed nasal fossa, with a result that the whole side of the head is prevented from expanding or growing properly.

Temporary nasal obstruction, then, lasting for any considerable time, tends to produce, and does produce, collapse of the walls of the closed nasal cavity, and so chronic or permanent nasal obstruction.

Some degree of distortion of the face is common. A perfectly symmetrical face is rare. I submit to you that anterior and posterior hypertrophies, polypi, varices, catarrhs, &c., are more commonly a sequel of chronic nasal obstruction than a cause.

Before passing on to our third point, or the effect of these induced states, I would ask you to note, as supporting my contention, that the thinnest and most easily displaced or bulged side of the nasal box should, if my contention be true, be the one most often displaced and the cause of most obstruction, namely, the septum, and as a matter of fact, it is so.

Now I shall venture to enumerate to you the more common sequelæ and direct results of chronic nasal obstruction so induced or brought about, and to each I shall affix the question: "How" and "Why," and endeavour to answer it.

And first, the commonest of all is dryness of the mouth and tongue in the morning.

The how and why in this case is not hard to answer, but I must here make a digression and issue a warning to you.

It is the rule that when a patient comes to you complaining of dryness of the tongue, mouth, and throat in the morning, that you will not find at the time of your examination any complete blockage of his respiratory nasal tract.

You will examine his anterior nasal openings, and you will, as a rule, find an enlarged anterior extremity of the lower turbinated body.

Expiration now may be perfectly clear, and your patient can blow out a lighted match with the apparently offending nostril.

If with these symptoms you will look carefully, you will observe on the septum a concavity or nest into which the enlarged turbinated body fits during rest and sleep in the recumbent position. This is proof positive, and pathogno-

monic of chronic nocturnal obstruction, which, as I have pointed out, is more potent for evil consequence than obstruction during the day time. Of course, the dryness of the mouth aud throat in the morning may be due to other causes, but the commonest cause of all is enlargement of the erectile tissues on the lower turbinated bone, known as turbinal varix.

Now one word more before we pass on, as to the method adopted of testing a patient's capacity to breathe through the nose, and its fallacies. Most persons adopt the erroneous method of lighting a match, placing a finger on the other nostril and requesting the patient to blow the match out. This is no test at all, and a patient suffering from a marked degree of nasal obstruction may be quite capable of blowing out the match. May I recall your attention to what I stated *re* the valve-like nature of the nostril.

A muscular effort is required to admit air in inspiration (the more important event of the two), but not so in expiration, air can find its way out as it likes without danger to anything or anyone, and at all times and with few exceptions is nasal expiration possible even when marked degrees of nasal obstruction are present.

No, the proper test is to require your patient to close the mouth and to close the other nostril, and if he can exist for a minute or two without opening his mouth then there is no material degree of obstruction, and if not, there is.

But to return to our list of consequences of chronic nasal obstruction. Arising out of the discomfort of mouth breathing follows often disturbed sleep, and in children, nightmare, frequently amounting to trance.

Next, night cough, commencing a few hours after retiring to rest and lasting a considerable time, from the effect of cold, dry, and unfiltered air entering the larynx and trachea. Then, morning cough, which disappears during the day to return regularly next morning accompanied by a good deal of glairy expectoration. This is again due to the irritation of the cold, dry, and unfiltered air, associated with engorgement and congestion of the mucous membrane of the trachea and larynx, due to the dry cupping of the parts during abnormal and impeded respiration. Next, arising out of this, follows hoarseness, laryngeal and pharyngeal, as well as post-nasal

catarrh, all due to the same causes. After an experience of fifteen years of throat and nose cases at the Hospital and in private practice, I make this general and bold statement, that patients do not get pharyngeal, laryngeal, or post-nasal catarrh often, or in a chronic or recurrent form, unless they are suffering from chronic nasal obstruction, and the only and permanent cure for these chronic or recurrent conditions is to ventilate the nose, restore to the patient the valuable physiological functions of the organ, and he will get well of his own accord, without further treatment.

Do not restore to him his nose as a respiratory organ, and I venture to assert that whatever you may do for him, you will not permanently relieve him.

Of course, syphilis, tuberculosis, and alcoholism are conditions easily recognised, if apart from nasal stenosis, but are frequently associated with and intensified by chronic nasal obstruction, and are more easily dealt with and successfully treated by removing that condition. Next, enlarged, inflamed and morbid conditions of the tonsils—oral, pharyngeal and lingual—are constantly associated with chronic nasal obstruction, and why? the dry, irritated and morbid condition of the mouth and adjacent parts must expose the tonsils to infection, irritation, engorgement and consequent hypertrophy.

Again, deafness, dry catarrh of the tympanum, suppuration of the middle ear with all its consequences, may be directly attributed to chronic nasal obstruction. I will give you the sequence of events. Chronic nasal obstruction, engorgement of post-nasal mucous membrane from the consequent dry cupping, accumulations of mucous decomposition and germ growth in same, blocking of Eustachian tube with catarrh and infection of tympanic passage and cavity, dry catarrh, abscess, perforation, &c., mastoid abscess, &c., polypus of the ear, &c.

Moreover, polypus of the nose and naso-pharynx, anterior and posterior hypertrophies, spurs, ridges and turbinal varices, may justly all be put down to the chronic state of engorgement and irritation to which the parts are subjected by the ever present diminished nasal tension and want of ventilation.

Consequent on this it is easy to conceive that the accessory cavities of the nose may suffer; the engorged condition of the

lining membrane of these cavities and the consequent accumulation of unhealthy and decomposing mucus may lead to abscesses, and accumulations in the antrum of Highmore, frontal sphenoidal and ethmoidal sinuses.

This is not theory. These conditions are constantly associated with chronic nasal obstruction, and we do not find these conditions without some degree of the same. Lastly, as secondary effects, pigeon breast, collapse of chest walls, lateral curvature of spine, chronic bronchitis, asthma, and heart affections, headaches and neuralgias are well-known accompaniments and results of chronic nasal obstruction. You will say my indictment is a pretty heavy one against chronic nasal obstruction, but had I time I could give you chapter and verse and illustration of every accusation here made. One word more, do not forget the commonest effect of chronic nasal obstruction in young people, namely, pinched upper jaw, highly arched palate, irregular and crowded teeth, with thin flattened face and prominent nose.

This is a typical feature of the effects of chronic nasal obstruction in the young.

SCURVY FROM STERILISED MILK.—Dr. Lewis Starr claims to have seen several cases of scurvy in children resulting exclusively from the use of sterlised milk, which were cured by the employment of unsterilised milk, with the addition of raw beef juice. We are not sure that the same results might not have been attained by the addition of orange juice, strawberries, baked apples, or some other form of fruit to the diet of unsterilised milk, and meat juice is certainly not necessary. The children were aged from fourteen to twenty-two months. Adults need a greater variety of food.—*Modern Medicine and Bacteriological Review.*

VINEGAR AS AN ANTIDOTE TO CARBOLIC ACID.—According to Prof. Carleton, vinegar is an antidote to carbolic acid. Applied to the skin or mucous membrane burnt by carbolic, it causes a rapid disappearance of the characteristic whiteness, as well as the anæsthesia produced by carbolic, and it also prevents the formation of a slough. It also neutralises any carbolic that may have been introduced into the stomach. The first thing, therefore, to do in cases where carbolic has been swallowed, is to make the patient drink some vinegar mixed with equal parts of water, and then to wash out the stomach.—*La Semaine Médicale.*

Report of Proceedings.

Ordinary Meeting—April 10, 1896.

Dr. SYMONS ECCLES, President, in the Chair.

Mr. J. HERBERT MENZIES read a paper on "Notes on a case of Infantile Scurvy" which is published on page 174.

The following discussion took place:—

Mr. ALBAN DORAN: Some authorities believe that certain organic germs in food, so far from being deleterious, actually play some share in nutrition. This may explain why children often fail to thrive on sterilized milk. There are plenty of germs in the food and gums of healthy men; and their intestines swarm with microbes—very deadly agents if projected into the peritoneal cavity, but harmless and perhaps necessary in the alimentary canal. German obstetricans ensure the total exclusion of germs from the uterus in labour and the puerperium. This has effected a most striking reduction in mortality. On the other hand the organization of retained placenta, sometimes ending in malignancy, with metastases in the lung and bones (deciduoma malignum) has frequently been observed of late years. Perhaps germs assist in the process of detachment of placental relics, and as long as they are the right germs no harm is done; just as a certain amount of hæmorrhage, elsewhere an essentially pathological condition, is necessary and physiological in the parturient uterus. Certainly, septic germs must be kept out of the alimentary tract, peritoneum, and uterus; but all germs in milk are by no means septic, and science may show that they assist directly or indirectly in the assimilation of that article of diet.

Mr. KEETLEY: The dangers of giving non-sterilized food for infants are so vast that we must not be deterred from sterilizing by the fear of infantile scurvy. It is sufficient to add a due proportion of anti-scorbutic food. Although infantile scurvy is frequently associated with rickets, I believe it to be a distinct disease. Indeed, I regard rickets rather as a condition which may be produced by more than one micro-organism, including, of course, that of syphilis. Whatever may be the case elsewhere, I do not see so many cases of infantile scurvy at the West London Hospital now as formerly. Among cases

which come under the surgeon, separation of epiphyses is far from uncommon.

Dr. SUTHERLAND: There are two points in connection with this interesting case of Mr. Menzies to which I wish to refer. He has laid stress on the fact that the patient had been taking daily a quart of sterilized cows' milk. In this country sterilized milk is by no means as yet a general form of diet for infants; and most of the recorded cases of infantile scurvy have been traced to the exclusive use of condensed milk or special proprietary foods. In America and in Germany the case is different. Large laboratories have been established for the preparation and supply of sterilized milk, and a considerable number of instances have been recorded in these countries of the supervention of scurvy on this diet. It is sometimes objected that such a conclusion must be erroneous, because the practice of boiling milk is very general, and that to a certain degree renders the milk sterile. This may be admitted, but, as Dr. Barlow has pointed out, it is the absence of "living food" which induces scurvy; and milk which has been scientifically sterilized, is not only boiled, it is boiled to death. The exact changes which have taken place in the process, we do not know; but probably the prolonged exposure to an extreme degree of heat produces changes—chemical or vital—which are not induced by the ordinary method of boiling for a few minutes. Another point of interest in this case is the absence of rickets. Those authorities who deny the existence of scurvy in infants, and affirm that all the special manifestations are dependent on acute rickets, or rickets with a hæmorrhagic tendency, usually fail to relieve the symptoms by anti-rhachitic treatment, and not infrequently dies of exhaustion from recurrent and extensive hæmorrhages. If, on the other hand, an anti-scorbutic diet is adopted, the improvement is rapid and permanent, as in the case just related.

Dr. COUTTS: I agree with Mr. Menzies as to the sterilization, or boiling of cows' milk, being solely responsible for scurvy in infants. Notwithstanding this, I also agree as to the advisability of sterilization; and would supply the absent anti-scorbutic element by the administration of small quantities of grape or orange juices from time to time. I may point out that there is a prior stage of scurvy before the hæmorrhages make the disease unmistakeable. An infant, before the hæmorrhages occur, generally presents signs of ill-health, with anæmia and pains on movement. This condition may last for a long time, and periosteal and other hæmorrhages may ensue with startling rapidity. I believe that middle degrees of scurvy are far from being uncommon, and that the pronounced cases are certainly rare.

Dr. BURRELL: The exclusion of germs cannot be the sole cause of infantile scurvy, since sailors who suffer from scurvy get plenty of germ-containing food.

Dr. MORTIMER: I should be glad to know the source of the milk used in Mr. Menzies' case, and the method of sterilization employed.

Dr. KEEN: Is there any microscopical difference between ordinary and sterlized milk.

Mr. MENZIES: I am glad to know that so many agree with me in denouncing sterilized milk as an incomplete food; and I quite endorse Mr. Keetley's plan of adding some fresh food, in fact, this suggestion appears in the paper. Mr. Keetley said that he did not now see so many cases in hospital as ten years ago; this interesting fact is probably due to an earlier recognition of the first signs of the disease in the out-patient department. All observers have also laid stress upon its greater frequency in private cases. Dr. Coutts has rightly pointed out that there is usually antecedent malaise; in my case it was probably shorter than usual, for the child had just returned from a month's stay in the country, and his health was considered good there. Dr. Sutherland's remarks were most interesting. The milk was supplied by the "Excel" Sterilized Milk Company, and the process was probably exposure to a high temperature (under boiling point) for some hours.

Dr. THUDICHUM read a paper: "The Chemical Constitution of the Carbo-hydrates and Albuminoids, with special reference to Diabetes and its Treatment," which is published on page 151.

Dr. ALDERSON: I should be glad to hear Dr. Thudichum's opinion as to the recently suggested pancreatic fœtor in diabetes, and what he believes to be the connection between nerve injuries and glycosuria.

Mr. PERCY DUNN: As it is quite impossible, I apprehend, for most of us to discuss the learned paper which Dr. Thudichum has just read, I would suggest that we should pass a hearty vote of thanks to him in response, and that the expression of our indebtedness should be carried by acclamation. Dr. Thudichum is well known as a most accomplished chemist, much of whose original work will live on account of its high scientific value.

The vote of thanks was carried by acclamation, and was duly acknowledged by Dr. Thudichum.

OVARIAN CYSTS WITH TRUE AND FALSE CAPSULES.

Mr. ALBAN DORAN: I have here three specimens illustrating the condition of ovarian cysts with true and false capsules.

The specimens have been brought from the museum of the Royal College of Surgeons. I may more particularly refer to one of my cases, illustrating this condition. The patient was a domestic servant, aged 25, and single. A small cyst filled the lower part of the abdomen and intestine lay in front; the fundus of the uterus could be felt in the right groin, its cavity measured 3½ inches, the cervix lying high. No part of the cyst came down into the pelvis. I operated on May 1, 1895, assisted by Dr. Hubert Roberts. On tapping, a pint and six ounces of ovarian fluid escaped. The surface of the tumour was white. On inspecting the tapping hole two distinct layers could be seen, as though there was a true capsule. I placed my hand down behind the supposed capsule and pushed out the entire cyst with a normal pedicle, the meso-salpinx and the ovarian ligament running on to the "capsule." There were no adhesions, and the opposite (right) ovary was healthy. Convalescence was uninterrupted. The "capsule" was simply the ovary itself, distended by the cyst within its substance. The true cyst wall was connected with the ovarian capsule by very loose connective tissue. Had the union been close and firm, that would have been the usual condition in ovarian cystoma, and no two separate layers would have been seen on inspecting the trocar wound. On the other hand, had the capsule of ovarian tissue been adherent to pelvic structures, the cyst might have been deliberately enucleated from the ovary itself; the appearance after enucleation would then have been puzzling.

I may point out that a pathological and a surgical capsule are not identical. Thus in the common parovarian cyst, the capsule comes away with the cyst wall on tapping, and no enucleation is needed. The surgeon understands, by a capsule, something that has to be separated from the cyst. I have had cases under my care where a parovarian cyst burrowed not only into the mesosalpinx, but also downwards; of ovarian cysts which also burrowed in both directions; and of ovarian cysts which did not burrow at all, but where the lowest part never rose out of Douglas' pouch. The uterus is pushed up in front of the cyst, as is the case in burrowing cysts. On tapping, however, the whole cyst, including the pelvic part, comes out of the wound, the pedicle is easily secured, and the uterus sinks to its normal position; sometimes the tube and mesosalpinx does not burrow, but is plastered on to the cyst by inflammatory adhesions. If the surgeon mistakes these adhesions for a capsule and attempts enucleation, intestine, vessels or the ureters may be damaged. Hence the importance of distinguishing true from false capsules.

Localised Scleroderma.

Dr. HENRY DICKMAN: The case of this child, aged 6, which I now show is an interesting one of localised scleroderma. The disease began to show itself eighteen months ago; each patch began as a tiny spot of a pinkish colour, surrounded by minute blood vessels. These spots gradually and imperceptibly increased till they have attained their present size. There is some irritation, not amounting, however, to pain. The patches are two in number, situated on the back; the upper one is on the left side of the spine about the seventh rib, and the lower one is in the middle line a little lower down. The lesions are quite free from induration.

Ordinary Meeting.—Friday, May 1, 1896.

A. SYMONS ECCLES, M.B., President, in the Chair.

Dr. SYDNEY A. BONTOR read a paper on "Whooping Cough," which is published on page 178.

The following was the discussion which took place:

Mr. MAYO COLLIER: I congratulate Dr. Bontor on his able and instructive paper. The examination of the larynx during an attack of whooping cough is a matter of difficulty unless the irritability of the part be soothed by a spray of menthol on parolleum, with ten grains of cocaine to the ounce. This should be sprayed into the nose with an ointment atomizer, and the patient instructed to draw in the breath during the application. This is not only a really certain and efficient method of examining the larynx, but the application invariably stops the troublesome and distressing cough, and materially assists in expediting a cure. The local appearances in the larynx are simply those of intense vascularity and congestion, with an accompanying increase of glairy secretion.

Dr. CAMPBELL POPE: I agree entirely with Dr. Bontor's antiseptic treatment in the first stage, but would advocate a thorough application of the menthol spray to the nasal fossæ by the physician himself in this stage, as I think the menthol is not only a nerve sedative but a powerful antiseptic. I also think the mucus is the exciting cause of the spasm, but not so much by being formed in the larynx, as by dropping into the larynx from above, being conducted downwards by the uvula, and dropping into the larynx.

Dr. C. W. CHAPMAN: When I was attending the out-patient clinique of a German physician many years ago, if a child in the waiting-room had a bad attack of coughing, the doctor would rush out and give the patient an inhalation of

a few drops of chloroform; this always checked the spasm, and generally insured peace for the rest of the afternoon, even without ejection of mucus.

Dr. BURRELL: Has Dr. Bontor tried small doses of morphia and antimony, as recommended by Dr. de Styrap, of Shrewsbury? He recommended it for early catarrh. I have used it with great success, both for ordinary catarrh and in whooping cough.

Dr. ACHARD: Has Dr. Bontor had experience of application of tar? I have found great benefit by keeping the room thoroughly and constantly fumigated with tar. This is done by introducing a red hot poker into liquid tar. In the majority of cases the duration of the disease is very much shortened.

Dr. DOBSON: I agree with Dr. Bontor as to the use of menthol and cocaine spray in the second stage, as being exceedingly satisfactory. With regard to the first stage, I have found that the great difficulty lies in making a diagnosis of whooping cough from other catarrhal conditions of the larynx.

Dr. BONTOR: I cannot myself recognise the first stage of whooping cough, and so I cannot apply an antiseptic as early in this stage as I should wish. I have not prescribed menthol so much for its antiseptic as for its sedative properties. I agree with the President that the duration of this stage is a conundrum difficult to solve. So far as the use of morphia and antimony is concerned I frequently prescribe these drugs. I tried the tar-charged atmosphere in one case, but I found no benefit to result to the patient.

Mr. MAYO COLLIER read a paper on "Some Effects of Chronic Nasal Obstruction," which is published on page 188.

The following discussion ensued:—

Dr. CAMPBELL POPE: On one point I must venture to disagree with Mr. Collier, namely, that if you inhale through the nose you may exhale as you please. I think, for instance, in foggy weather that it is quite as important to exhale as to inhale through the nose. If this is not done the nasal mucous membrane gets chilled by losing the warm return current from the lungs, and so a catarrh is started.

Dr. RAYNER BATTEN: I have noted as the result of nasal obstruction numerous cases of myopia, and myopia also of peculiar kind, which I think the explanation given by Mr. Collier may explain.

Mr. MCADAM ECCLES: Having ascertained from Mr. Collier that partial nasal obstruction was sufficient to bring about osseous deformity, I would like to ask him why, in the very large number of cases of partial stenosis, so few are the subject of changes in the bones, especially seeing that

adenoid vegetations and other obstructions occur so often in quite young subjects, in which the jaws and palate are developing.

Mr. MACLEOD YEARSLEY: I understand that Mr. Collier's argument is applied to the septum before it is fully developed in young subjects, and when it is more plastic. I would like to ask him if he has noticed any difference in percentage between the frequency of the distortion of the upper jaw in hospital and private practice; I believe from my own experience that it is more frequent in the lower class patients met with in hospital practice.

Dr. THUDICHUM: I have listened with great pleasure to Mr. Mayo Collier's physiological deductions on the production of stenosis of the nose by mechanical pressure of the outer air during inspiration. Now pressure may have a slight influence, but it is in my opinion insufficient to explain such cases as those of which he has shown us casts of the palate and dentition. These cases appear to me to be the result of atrophy of the sphenoid and pterygoid centres during fœtal or infantile life, such as is the primary cause of idiocy. The casts suggest the features of facial centres of individuals who in early stages of life have just escaped from the extreme form of that atrophy—have escaped from the fate of idiots. In his observation on the *septum narium* the author of the paper takes it as a whole without adverting to its parts, and believes it to be an extremely flexible body. This applies to the cartilaginous part only, which is flexible, though resistent; but the vomer is hard and stiff and cannot be bent, and the *lamina perpendicularis* of the ethmoid, though thin, is also stiff, and rather breaks than bends. On these bones, which by distortion are among the commonest contributing causes of stenosis, the pressure of the air outside upon the upper maxillary bones, acting by diminution of the pressure inside during inspiration, can have hardly any effect. The commonest ultimate causes of stenosis of the nasal passages are of a dyscratic kind, produced by syphilis, tuberculosis, including lupus, and by the obscure sequelæ of acute fevers, typhus and typhoid, scarlatina, measles and purulent infections. These cause hypertrophy of the septum and of the turbinated bodies in a variety of forms, all being chronic and having severe effects upon the body in general. The most frequent immediate cause of nasal stenosis is hypertrophy of the lower turbinated bodies. They distort the septum by pressure, and this is the result of passive congestion by hypostatic distension during recumbency, or by paralytic conditions of the sympathetic fibres coming from the rhinal ganglion. The *venous tissue* of the lower shell bones should not be termed

"erectile," for in healthy persons it does not swell or increase and decrease as a physiological act, but preserves its volume. Only as the result of injury or disease does it increase, and by chronic disease it becomes permanently enlarged, so much as to excavate a trough in the septum. Thus by opposite pressure two turbinated bodies make the septum S shaped. The venous tissue of the turbinated bodies should be termed cavernous. Their air-warming function is of course undeniable when the air is below blood heat, but very small, and can be dispensed with; moreover it is not wanted in warm climates and warm weather, and the lungs are not so sensitive as to require warmed air, they bear the air entering by a tube into the trachea quite well and without warming. Hypertrophied turbinated bodies, when proved to be incurable by internal remedies, should be removed by abscission as a whole or in part. When I introduced that operation it was criticised adversely by persons who had not sufficient experience; some of these critics now are glad to perform it themselves. Many of those who formerly opposed it had never seen any severe case of stenosis, and their opposition is easily met by a large experience of the result of operations on patients of all classes, many of them persons whose career was jeopardised by the nasal obstruction—statesmen, senators, lawyers, soldiers, singers, mariners, preachers and independent persons of both sexes and very different ages. Many of these were brought to me by members of the profession, and treated by them conjointly with me. And a number of medical men were themselves my patients and were cured of the stenosis. The treatment by *surface burning* of the cavernous tissue is based upon the erroneous supposition that the stenosis is caused by the increase of the soft parts only, whereas much is caused by osseous or cartilaginous hypertrophy, with *synechia* of the soft parts, and in quite a number with *synostosis* or membranous bony bridges from turbinated body to septum. In such cases the removal of the obstruction, if feasible, is not only justified, but it is a duty to advise it. The operation is moreover a radical and permanent cure, whereas surface cauterisation often fails, *produces* synechiæ and contracts the cavernous tissue only temporarily. The closing of one nostril by the finger should not be effected by pressure upon the ala from the side, but by laying the soft cushion of the thumb upon the nostril from below, and closing it by gentle pressure upwards. Pressure upon the ala from the side always bends the soft nose and its septal cartilage on one side, and narrows the nostril which it is intended to test, in a manner often leading to fallacious conclusions. The *effects* of chronic nasal obstruction are numerous and severe,

affecting nutrition, diminishing energy of nerve and muscle, and show themselves frequently as nervous reflex phenomena. Of these asthma is the most frequent. The organs of hearing are also collaterally or regionally affected. In the consideration of these cases great caution is necessary to avoid erroneous inferences regarding the relation of stenosis with the nervous symptoms. Stenosis by itself is a sufficiently injurious condition to call for removal, even though the coexistent neuropathies may be proved not to be among its effects by persistence after removal of the obstruction. In the greatest number of cases no neuropathies are present, and in these the immense benefit obtained by the operation, indeed the complete permanent cure, is best observed. Surface burnings and other cauterisation, *e.g.*, with chromic acid, to the relief of stenosis never cure reflex neuroses, but sometimes *produce* them, and chromic acid is a very dangerous caustic; I have seen sloughing and loss of the cartilaginous septum produced thereby in consultation about this sloughing, and would never advise its use in any form. But the electrocautery employed as a cutting instrument makes the operation precise and clean, almost bloodless, and with the aid of cocaine almost painless, or accompanied by only moderate suffering. The healing is mostly rapid and completed in a short time, and reaction is exceptional, severe reaction of the rarest occurrence. Stenosis may progress *to complete closure* of a nasal canal, *atresia*, *e.g.*, by abscess, and be both membranous and osseous. I have successfully operated on several such cases, and in these also the removal of the turbinated in its entirety is an essential condition of success. In some severe cases I have removed *all the turbinated bodies on both sides* at longer intervals of time, and complete success has rewarded the resolution of both patient and operator. Experiments on animals are unfit to teach anything regarding the effects of disease. In the first place the experiments begin with the introduction of *foreign bodies*, which set up not only mechanical effects, but irritation and effusion, and consequent atrophy in growing parts. They are used to enable the experimentalist to argue on matters on which he has no direct experience collected on human material, and thus it comes that such experiments lead to grotesque results. *Foreign bodies* in the nose of human beings are also a rarer cause of stenosis, and should therefore always be removed as quickly as possible. When they have become imbedded, access to them must be obtained by the removal of impeding parts.

Mr. MAYO COLLIER: I have listened to Dr. Thudicum's remarks and criticisms, and regret my inability to accept or

be influenced by them. In the first place there is not a shadow of foundation for the statement that the casts exhibited illustrating the distortion of the upper jaw are the casts of idiots or persons in any way mentally deficient. In each case the entire history of the patient is known. The distortion had commenced just before puberty, and steadily advanced to its present condition. Dr. Thudicum has objected to the description of the septum as a thin, fragile and rarely displaced partition, and has substituted for this a rigid, firm and resisting party-wall as being a truer description; and with a delightful inconsistency, and almost in the same breath, he warns us that the light application of a finger to one nostril is sufficient to so deflect the septum as to entirely obstruct respiration.

Dr. Thudicum's confession that he constantly cuts away any and all enlargements on the lower turbinated bone that may be obstructing respiration is, in my opinion, a matter for regret. Not one in a thousand of these cases requires, or indeed, justifies a step so drastic. With very few exceptions the galvano-cautery will pin down and keep in position the obstructing erectile tissue. I have frequently pointed out that post-nasal growths would not and could not assist, or have any influence in causing the distortion of the upper jaw so frequently found in anterior nasal obstruction.

[THE Editor regrets that owing to great pressure on the space it was found unavoidably necessary at the last moment to hold over the report of the Clinical Evening until the October number of the JOURNAL.]

CAMPHORATED SALOL.—Dr. Bower, in the *Boston Med. and Surg. Journal*, recommends for boils and carbuncles a preparation made by moistening one part of camphor with a few drops of alcohol, and rubbing in a mortar one-fourth part of salol, till a transparent fluid is obtained, which he calls *camphorated salol*. A change takes place in from twelve to twenty-four hours, pain diminishes, and the tumour becomes progressively smaller, without the formation of pus. The part is covered with cotton soaked in the remedy, with an impenetrable covering outside.—*N. Y. Med. Times.*

The Mirror of Practice.

A CASE OF MOVABLE KIDNEY, COMPLICATED BY RENAL CALCULUS.

By W. Bruce Clarke, M.B., F.R.C.S.
Assistant Surgeon to St. Bartholomew's Hospital.

A. M., age 33, was first seen by me in April of this year, when she gave the following history:—

History.—She was married eight years ago, and has had three children, the youngest 2 years old. Shortly after the birth of her last child she began to suffer from a dragging pain in the region of the back, which got gradually worse. A little later paroxysms of pain supervened, which lasted for some hours. They came on suddenly, and quite without warning. When these attacks supervene they are usually ushered in by vomiting. They are invariably worse at the monthly periods if they happen to occur at that time. During the course of the attack there is usually a frequent desire to micturate, and the urine is high coloured, and contains a pinkish sediment. When the attack is passing off, and sometimes during the course of its progress, a large quantity of water is passed, which may be high coloured or clear, pale and limpid; she has lost nearly a stone in weight.

For some months she has worn a pad over the region of her right kidney, but it has not in the slightest degree restrained the severity of her attacks.

She was admitted into St. Bartholomew's Hospital under my care on May 15 of the present year, when the following note (for which I am indebted to my dresser, Mr. Wroughton) was taken of her.

Present condition.—The patient is a fairly well-nourished, healthy-looking woman, has had three children, and no miscarriages. Her right kidney can easily be felt. It moves up and down readily, and has a range of movement of at least two inches. Handling it causes her some pain, and makes her feel sick. When her attacks of pain come on, the pain shoots down into the groin, the front of the thigh and as far as the knee. Urine 1020, acid, contains a trace of albumen.

May 20.—The patient was taken to the operating theatre, placed under an anæsthetic, and the following operation performed by Mr. Bruce Clarke:—An incision was made parallel with the last rib on the right side, and reaching from the erector spinæ behind, a little further forward than the tip of

the last rib. It was about five inches in length. The kidney was exposed, and found freely movable within its fatty capsule. It was brought out of the wound and examined between the thumb and finger. A stone could be felt in the pelvis about the size of a hazel nut. The kidney substance was incised and the stone removed, after which the kidney was united by two sutures, to the lumbar fascia and the muscular wound closed throughout its entire length, with the exception of the hole left for the drainage tube.

June 4.—The patient has made an uneventful and uninterrupted recovery. The stitches by which the kidney was fixed were removed to-day.

June 17.—Patient is convalescent.

Remarks.—It is rare to find a renal calculus in a case of movable kidney. There was no suspicion of calculus entertained by those who saw the case previous to the operation. It seems most probable from the size and character of the stone that the course of events was as follows: The mouth of the ureter was blocked by the stone, and the urine which was secreted by the kidney accumulated in the organ, and induced a condition of incipient hydronephrosis. When the kidney emptied itself, as, of course, it did from time to time, it decreased in size; but its fatty envelope did not contract upon it, consequently it was able to move freely within it, and the lax condition of the abdominal walls, following on pregnancy, aggravated this condition. Time alone can show if the operation will prove permanently successful; but to judge from other cases of a similar nature I have little doubt that complete cure is assured.

A CASE OF SURGICAL EMPHYSEMA.

By H. Percy Potter, M.D., F.R.C.S.
Medical Superintendent, Kensington Infirmary.

In hospital practice it is not common to admit cases of extensive subcutaneous emphysema, as witnessed in a man lately received into the Kensington Infirmary. Perhaps the case is worth a brief record.

J. L., age 41, was doing some scaffolding work on June 8. when he tripped upon a plank and fell 20 feet to the ground, striking his left side. As the fall was unbroken, the injury to the chest was severe. Two ribs—the third and fourth—were fractured, and when the man was examined about half an hour after the accident he was suffering much from shock, and there existed the peculiar emphysematous crackling be-

neath the skin of the left chest. This quickly extended, and within an hour or two involved, on the left side, the face, neck, thorax, upper arm, forearm and abdomen. On the right side the surgical emphysema affected the neck, thorax, upper arm, and abdominal flanks. Moreover, the scrotum was distended, and within a short space of time was so large and translucent as to present the appearance of impending rupture.

From the anatomical distribution of the subcutaneous air it was thought that the latter was situated to a great extent beneath the deep fascia, for no crackling could be detected below Poupart's ligament, and below the attachments of fascia to the pelvic outlet. The air, in fact, took much the same course downward as extravasated urine does upwards.

It may be mentioned that there was practically no pneumothorax, and that the ribs were probably forced directly through the pleural cavity into the lung; that the wound in this organ was opposed to that in the pleura, and during respiration air was expelled directly from the lung through the pleural wound into the subcutaneous tissue.

We gave relief by inserting a trochar and canula into the scrotum in two places, and by the application of strapping and a bandage to the chest. The patient made a satisfactory recovery.

A CASE OF ANEURISM OF THE FOOT.

By Jobson Horne, M.A., M.B., B.C.Cantab.

The patient is a man, aged 56, with a small pulsating tumour on the outer side of the dorsal region of the left foot.

For the past five or six years he has experienced cold, numbness, pins and needles, and readily a sense of fatigue after strain in the left foot; he has also felt similar sensations, but less marked, in the webs of the fingers. His work has always been light, and for many years he has been foreman in a Parish Yard in London. Just two years ago, while superintending the stacking of some heavy clay drain-pipes in the yard, one rolled off the stack on to his left foot. The foot was badly bruised, but the injury responded to home treatment, and after limping about in a slipper for about seven weeks at his work, he thought no more of the accident until eight months ago, when his attention was drawn to a lump on the foot by the discomfort caused by wearing a new pair of boots. I gather that the tumour has not materially increased in size since it was first noticed.

He has always lived moderately, and there is no history of venereal disease.

The arteries of the upper extremities are dilated and atheromatous, and, I think, considerably so for a man of 56. The heart is hypertrophied, but as to the condition of the arch of the aorta I am in doubt; I have detected no signs of pressure, and there is no paresis nor paralysis of the local cords.

The real point of interest in the case is the precise diagnosis. May it be regarded as a case of aneurism by anastomosis, or cirsoid aneurism, which has been aggravated by accident?

The treatment hitherto has been mainly directed towards the man's general health—in fact it was quite an afterthought on his part to draw my attention to the foot. He first sought relief for pharyngitis and laryngitis, then for bronchitis and old pleurisy of the right base—the residue of an illness twenty years back, afterwards to a hydrocele, and, finding that he was improving from above downwards, he inquired whether the symptoms of the foot could be relieved.

The drug treatment has included small doses of iodide of potassium. An elastic bandage has been tried, but this he does not tolerate.

Reviews and Notices of Books.

SHUTTLEWORTH ON MENTALLY DEFICIENT CHILDREN.[1]

THIS little manual will fill a decided want in the literature of the subject with which it deals, and more especially is it likely to prove of service to general practitioners. The book has been compiled from the author's twenty-five years' experience gained at two important institutions, namely, Earlswood Asylum and the Royal Albert Asylum, Lancaster, and in the small compass of about 140 pages a great deal of information is conveyed of a valuable and practical nature. In one of the early chapters of the work the author describes the pathological classification of forms of mental deficiency, and then discusses the etiology, diagnosis and prognosis of this condition. Chapter V. is devoted to the treatment of mentally deficient children, dealt with under the heads of (1) general, (2) medical, and (3) surgical. So far as the

[1] "Mentally Deficient Children; their Treatment and Training," by G. G. Shuttleworth, B.A., M.D., &c., late Medical Superintendent, Royal Albert Asylum for Idiots and Imbeciles of the Northern Counties, Lancaster; formerly Assistant Medical Officer, Earlswood Asylum. London: H. K. Lewis, 136, Gower Street, W.C., 1895.

latter is concerned, the remarks upon craniectomy are such with which most authorities will agree. "In a case of congenital microcephalus," says the author, "when the small skull is simply moulded to the brain, which has been arrested in its development at a stage corresponding to that of the fifth month of intra-uterine life, it would seem futile to expect that cerebral development would be fostered by cutting chinks in the skull, which after a short period would be filled up by bony matter apt to encroach upon the cranial cavity. In the light of numerous autopsies, described by Bourneville and others, the theory of premature synostosis as a common cause of microcephalus must be given up, and operations based on this theory abandoned." The experience of most surgeons who have performed craniectomy for idiocy is that the results do not bear out the favourable reports with which the French surgeons brought the operation into notice. But however this may be with regard to operative interference in cases of congenital microcephalus, Dr. Shuttleworth rightly points out that good results have been obtained where mental deficiency has been associated with injuries, epilepsy and paralysis, and that in such cases surgery should not be deterred until after serious atrophic changes and degenerations have taken place. Two useful chapters are added upon "Educational Training" and "Moral Training," which are well worth perusal. Altogether we can strongly recommend Dr. Shuttleworth's little manual, as containing in a handy, concise form, all that the busy practitioner requires to know in connection with the care and treatment of children who are mentally deficient.

KENWOOD ON PUBLIC HEALTH.[1]

THE issue of a second edition of this work has furnished the opportunity to submit it to a thorough revision. Moreover, a considerable amount of new material has been added without increasing the size of the volume. As a trustworthy, practical guide to the laboratory work required for the public health degrees, this manual can be highly recommended. The student and practitioner will find that it contains all the knowledge necessary for the carrying out of those analyses

[1] "Public Health Laboratory Work," by Henry R. Kenwood, M.B., D.P.H., F.C.S., Instructor in the Hygienic Laboratory, University College, and Assistant to Professor Corfield in the Public Health Department, University College; Medical Officer of Health and Acting Public Analyst for the Parish of Stoke Newington; Fellow of the Sanitary Institute, &c. Second Edition, with Illustrations. London: H. K. Lewis, 136, Gower Street, W.C., 1896.

which may be fairly considered to be included within the domains of practical hygiene. The description of the processes referred to is plain and concise, and every effort has been made to incorporate in the work the newest methods of analysis which have been found of use.

[The Library Report for the past Quarter will appear in the next number of the JOURNAL.]

List of Members elected during the past quarter:—

April 10, 1896. (1) A. L. ACHARD, M.D.Brux., 9, Blandford Street, Manchester Square, W.
,, (2) FREDK. E. BATTEN, M.D.Cantab., M.R.C.P., 124, Harley Street, W.
,, (3) W. P. DICKSON, M.B., 52, Cambridge Gardens, W.
,, (4) G. TOLCHER ECCLES, M.B.Cantab., 63, Sackville Road, Hove.
,, (5) Surg.-Capt. R. W. JACKSON, M.D.
,, (6) J. A. MACDOUGALL, M.D.Edin., Villa Litterewe, Cannes, France.
,, (7) J. A. MANSELL MOULLIN, M.D., M.R.C.P., 69, Wimpole Street, W.
,, (8) WALTER A. PROPERT, M.R.C.S., L.R.C.P., 112, Gloucester Place, W.
,, (9) A. D'ESTAMPES DE VALLENCEY, M.R.C.S., L.R.C.P., Willoughby House, Ravenscourt Park, W.
,, (10) ARTHUR WHITFIELD, M.D., M.R.C.P., Eskdale, Wimbledon Park.
May 1, 1896. (11) H. F. BAILEY, M.R.C.S., L.R.C.P., The Hollies, Lee Terrace, Blackheath, S.E.
,, (12) JOHN F. BLACK, M.B., C.M.Aberdeen, 95, Goldhawk Road, W.
,, (13) G. C. CATHCART, M.D.Ed., F.R.C.S., 47, Welbeck Street, W.
,, (14) REGINALD HARTLEY, L.R.C.P., L.R.C.S.Ed., 112, Westbourne Grove, W.
,, (15) EDGAR ROE LYTH, M.D.Durh., M.R.C.S., 117, Goldhawk Road, W.
,, (16) JOHN DONALD POLLOCK, M.D., C.M.Ed., 98, Earl's Court Road, S.W.
,, (17) G. R. SWINHOE, M.R.C.S., L.R.C.P., The Close, New Swindon, Wilts.
,, (18) GEORGE EDWARD TWYNAM, L.R.C.P., M.R.C.S., 31, Gledhow Gardens, S. Kensington.
,, (19) PERCIVAL VIVIAN, M.R.C.S., L.R.C.P., 12, West Kensington Mansions, W.
June 5, 1896. (20) HARRY CAMPBELL, M.D.Lond., M.R.C.P., 20 Devonshire Street, W.
,, (21) HENRY F. ELLIOTT, F.R.C.S.Ed., Sidney House, Sutton Court Road, Chiswick.
,, (22) GERALD HARPER, M.B., 40, Curzon Street, W.

June 5, 1896. (23) J. S. SELWYN HARVEY, M.D.Durh., M.R.C.P., 1, Astwood Road, Cromwell Road, S.W.
" (24) W. J. H. MARKS, L.R.C.P., M.R.C.S., 7, Hertford Street, Mayfair, W.
" (25) GEORGE P. SHUTER, M.B., B.C., D.P.H.Cantab., Oaklands, Chiswick Lane, Chiswick.
" (26) GEORGE A. SUTHERLAND, M.D.Ed., M.R.C.P., 9, Old Cavendish Street, W.

POST-GRADUATE TUITION IN LONDON.

By C. B. KEETLEY.

DURING the autumn vacation the regular courses of lectures are suspended. But the practice of each hospital goes on as usual, and clinical assistancies, dresserships, &c., can be obtained.

In the hospitals to which medical schools are attached, the absence of most of the undergraduates leaves a better opportunity for graduates. The wards are usually in the charge of the younger members of the staff, and the seniors—with whose names strangers may possibly be more familiar—take their holidays at this season. However, this is only partially the case, because the vacation lasts three months, and few medical men are so fortunate as to be able to get away for more than a month or six weeks. American visitors will generally find the "Assistant-physicians," &c., in charge in August, and their seniors in September—a rule with many exceptions.

A great deal of post-graduate instruction of an informal kind can be obtained in a pleasant way at the annual meeting of the British Medical Association, which will this year take place at Carlisle, in the week ending August 1. Particulars may be obtained from the office of the Association, 429, Strand. Visitors from abroad are always welcome. The neighbourhood of Carlisle to the Lake district should be an additional attraction, especially to Americans.

The College of Surgeons Library closes at 6 p.m. in August, and altogether in September. On Saturdays it closes at 1 p.m. as usual.

The Library of the Royal Medical and Chirurgical Society (20, Hanover Square) is open in July and August, and that of the British Medical Association in July, August and September (at 429, Strand).

In the October number of this journal will be given the arrangements for post-graduate tuition during the months of October, November and December.

NOTES ON NEW PREPARATIONS.

Urine Test Pellets. W. Temple Cooper, 66, Oxford Street, W.—The cupric test pellets introduced by Dr. Pavy are now fairly well known to the profession, since they certainly are the most portable form in which to carry about a test for sugar.

As a test for albumen, Mr. Cooper has sent us some ferrocyanic test pellets, by means of which albumen can be detected without the aid of heat. It is the old acetic acid and ferrocyanide of potassium test which has long been favourably regarded as a diluent test for albumen. A drachm of urine is placed in a test tube in which the acid pellet is dissolved, next a ferrocyanide pellet is dropped in and allowed to dissolve. If albumen is present a precipitate will immediately appear. It certainly forms a very portable and cleanly test for albumen, and the bottle of tabloids takes up very little room.

Mr. Cooper also sends us a little book of the various tests and apparatus used in the clinical examination of urine, in which simple and clear directions are given for carrying out the various processes. Mr. Cooper further undertakes the analytical examination of specimens of urine sent by post or otherwise, and furnishes a report on a special form.

Anti-Typhoid Serum. Anti-Syphilitic Serum. Burroughs & Wellcome, Snow Hill Buildings.—We have received samples of the above anti-toxic serums, which are specially prepared in Messrs. Burroughs and Wellcome's laboratory by a well-known bacteriologist. To them is due the discovery of preparing the serum in a dry form, and these serums can now be obtained in either form. From laboratory work these preparations ought to be of value, but their use at present, can, of course, only be experimental.

We have also received from the same firm effervescent tabloids of lithia tartrate and of lithia citrate; these will be found of use in the uric acid diathesis. A tabloid of compressed caffeine Co. containing 1 grain of caffeine and 3 grains of antipyrin is an excellent remedy for migraine.

Tabloids of pancreatin and of purified ox bile are now supplied by Burroughs and Wellcome, and by coating these with kreatin, the extract has no effect until the food has passed out of the stomach. They are certainly very neat methods of exhibiting either of these extracts.

Chinosol. Mr. B. Kuhn, St. Mary-at-Hill, E.C.—This new antiseptic, which is easily soluble in water in proportions of

from 1 in 10 to 1 in 4,000, is a yellow powder and is prepared in the form of tablets, powder, and dusting powder. It has a very faint, not unpleasant odour, and does not cause irritation when used on wounds or on the skin; it has no toxic properties, and its solutions do not coagulate albumen. As a deodorizer of wounds it is effectual and rapid in its action.

As a result of bacteriological investigations with a solution of chinosol acting on the culture for ten minutes, it was shown that when the strength of the solution was not less than 1 in 10,000, cultivation of typhoid, diphtheria, cholera, staphylococcus aureus, erysipelas, were all rendered inert.

Liq. Quininæ Salicylatis. Cooper & Co., Gloucester Road, S.W.—This is a very elegant method of exhibiting both salicylic acid and quinine. It is a clear solution, containing 1 grain of salicylate of quinine in each fluid drachm, which has a pleasant taste and which can be taken without the unpleasant effects so often found after the use of quinine alone. It seems certain, too, that this soluble form of salicylate of quinine is much more likely to be absorbed than when the drug is given in the form of a pill or powder. One of its chief uses will be in influenza, since it has both tonic and antipyretic properties.

Messrs. Cooper & Co.'s Cachets "Finot" are now well known to the profession as one of the simplest and most efficient means of administering in a tasteless form, nauseous or insoluble drugs. They can be had in all colours, with letter-press upon them shewing the drugs which they contain. It is extraordinary with what ease even the largest sized cachet can be swallowed if it be previously moistened.

Euthymol. Messrs. Parke, Davis & Co., 451 Oxford Street, W.—This antiseptic solution is a mixture of oil of eucalyptus, oil of gaultheria, thymol, menthol, boric acid and fluid extract of wild indigo. It has a pleasant aromatic odour, and is quite innocuous, either in the form of a spray or taken internally. That it has powerful antiseptic properties is proved by some bacteriological experiments which showed that with a 7 per cent. solution of euthymol no growth occurred in beef bouillon tubes inoculated with pus germs or with those of typhoid fever. It seems to us to be likely to be most useful as a throat or nose spray.

We have also received from the same firm a sample of Johnston's ethereal antiseptic soap. It is specially intended to be used before surgical operations, and there is no doubt that liquid soaps are in many ways superior to the old solid forms, in that contact is ensured with every portion of the

hands and nails. The directions for its use are very simple, after wetting the hands thoroughly, about one drachm of the soap solution is poured over them and the hands rubbed together. We have tried it and were well pleased with its action.

NOTES ON BICYCLE SADDLES.

Bicycle Saddles.—In these days of almost universal bicycle riding, medical men are often consulted and expected to advise about the best saddle for riding a cycle. The old-fashioned peaked saddle has two main disadvantages, first, the saddle proper is not sufficiently wide to accommodate the two ischial tuberosities on the soft part of the saddle, with the consequence that these eminences rest on the extreme edges, where of course the leather is least yielding; secondly, the pressure of the peak after long rides is apt to give rise to prostatic or urethral irritation, thus in cases of enlarged prostate it is not uncommon for retention of urine to occur in consequence of bicycling, and several cases of urethral discharge have been ascribed to the pressure of a saddle peak. In the case of lady riders the objections to the peak are obvious.

The peak, however, has a good feature, since it supports the body while going down hill and takes the weight off the hands, while with a peakless saddle, some difficulty in going down hill and a general feeling of insecurity is felt at first. The disadvantages of the peakless saddle are only temporary and are soon overcome, but the objections to the peak are great and real and are only aggravated by use.

We should consider that some form of peakless saddle is essential for all lady riders, and for middle-aged men with prostatic troubles, and even for healthy young men it is frequently necessary.

Several different forms of peakless saddle are now made, and we have received three forms which we have carefully tried.

Henson's Anatomical Saddle.—This is one of the earliest peakless saddles, and after several recent improvements it maintains its position as one of the best. The framework consists of two ovoid iron plates, each with a hole in its centre, which are joined behind, but are quite disconnected in front. On each side of this framework a distinct air bag, with a perforation in its centre, is placed, and the whole is kept in

position by a chamois leather covering. Some light iron bars connect it, without any spring, to a special saddle clip, by which it can be attached, at any inclination, to any bicycle. When in use the ischial tuberosities rest in the two lateral holes and the division between the two halves of the saddle in front effectually prevents any pressure on the urethra or perinæum. It is undoubtedly a comfortable seat, and except for the slight extra strain felt on going down hill at first, is much preferable to any peaked saddle. It was designed by a medical student, and is certainly founded on sound anatomical principles. It is adapted for the use of both ladies and gentlemen, and after having ridden over 100 miles on it, we can strongly recommend it. It has only one disadvantage, that is, the absence of any spring, so that there is a good deal of vibration felt when riding over rough roads. It is made by Brown Brothers, Great Eastern Street, E.C.

The Autapto is another peakless saddle, which has been made by Messrs. Middlemore. It consists of a steel cross bar, upon which two absolutely distinct oblong steel plates, covered with leather, are fixed in such a way as to allow them to revolve through a small segment of a circle. This revolving movement is checked by springs. On anatomical grounds and in theory this saddle would be almost perfect, since the distance between the two plates can be altered according to the requirements of the riders, and the two plates support the upper part of the thigh as well as the ischial tuberosities, and follow each movement of the leg in riding. In practice, however, the saddle is not comfortable and feels most insecure, as there is nothing to prevent the rider from slipping off even on level ground, in fact one does not seem to get any grip on the saddle, and it does not give the same rest as other saddles.

Burgess's Seat.—This invention does not aspire to the name of saddle, but entirely discards the old idea. It consists of two absolutely distinct cushions about three inches in diameter. These cushions are screwed on a vertical bar, and are not only capable of a lateral adjustment, but the distance between the two cushions can be altered to suit the comfort of the rider. Each half of the seat consists of a ring air cushion, resting on an iron cup, provided with a separate spiral spring. In theory the seat leaves nothing to be desired, since it is capable of so much adjustment; and it is this very fact which prejudices some against it, since in a preliminary trial it is apt to give the impression of being uncomfortable. When properly adjusted, however, and when one has got

accustomed to a peakless saddle, it is the most luxurious cycle seat that we have tried. The presence of two separate spiral springs takes away an enormous amount of vibration, so that one can ride over rough cobbles without being shaken except through the handle bar. It is needless to add that there can be no injurious pressure on the urethra, and it is therefore specially indicated for elderly riders. The seat is also admirably adapted for lady cyclists.

We have also tried the **automatic cycle saddle**, a form of peaked saddle, in which some of the disadvantages of the peak are obviated, since by the employment of a double spring the saddle always maintains a horizontal position whether ascending or descending hills. The saddle is fixed to the L pin without the intervention of any ordinary spring, so we suffered a good deal from vibration when going over rough roads. After using a peakless saddle for some time, we found even this one decidedly unpleasant, but not nearly so much as an ordinary peaked saddle. We consider, however, that this automatic saddle is superior to any other peaked saddle, and therefore would recommend it to those who are prejudiced against peakless saddles.

CASES of myelitis or meningitis occurring during or after a gonorrhœal attack have been long known, and have been explained by the reflex theory (Romberg, Stanley), or by Remak's hypothesis that superficial neuritis, occurring in gonorrhœa, is translated *per continuitatem* to the spine.—E. LEYDEN.

THE milk of a nursing mother, in order to possess the requisite nutritive value for the infant, must contain 3 per cent. of fat, and from 1 to 3 per cent. of albuminoids. When the albuminoids are in excess of the fat the milk is prone to cause rachitis. In cases in which nursing women menstruate during lactation, a careful analysis should be made of their milk, and if it be found that during the inter-menstrual period the normal proportion of fat and albuminoids does not obtain, the child should be weaned.—D. A. CAILLE.

BISMUTH PASTE FOR ORCHITIS.—A thick paste consisting of subnitrate of bismuth and water is the best application for swollen testicles. It relieves the pain and the burning sensation, and the swelling rapidly subsides. It is equally useful for burns and scalds, and as an application for sunburn, blistered skin, and chafing of the groin.—*La Medecine Moderne.*

NOTES AND NEWS.

THE past quarter has been an eventful one, both for the West London Hospital and for the Society. On May 21, the grand Bazaar and Fête was held in the new wing of the hospital. The opening ceremony was performed by the Princess of Wales, and accompanying Her Royal Highness were the Prince of Wales, the Princess Maud of Wales, Prince Carl of Denmark, and the Princess Mary Adelaide Duchess of Teck. Never before in its history have so many members of the Royal Family at one time graced the charity with their presence. That the indirect effect of the publicity arising therefrom will be good and lasting, goes almost without saying. It is, moreover, safe to assume, that many hundreds of persons are now aware of the existence of the West London Hospital, who otherwise might have claimed to be ignorant of its whereabouts. But while from this point of view satisfaction may be felt, the fact should also be borne in mind that financially the Bazaar has been a great success. Upwards of £3,000 arising out of this special effort will accrue to the building fund. Everyone must admit that this result is one which calls for sincere congratulation.

BUT space will not permit us to do more than casually glance at the proceedings in connection with the Bazaar. In brief, the occasion throughout was one which must be regarded as a "red letter day" in the history of the hospital. Moreover, apart from the special features for which the Bazaar and Fête were conspicuous, most of the visitors who were present could scarcely fail to have been impressed and attracted by the artistic and natural beauty of the scene. It would be easy to soliloquise at length on this theme, and then to wander far afield among the memories of the incidents, curious, amusing, and even solemn, of which the Bazaar was the source. But this is a journal devoted to Science, and to do anything which might tend to make the stern features of our patroness relax, would be a dangerous experiment to attempt.

THE proceedings in connection with the Bazaar were festively brought to a close by a Cinderella Dance given on June 9 to all the ladies who had officiated at the stalls. Upon this occasion the whole management of the affair was taken charge of by a committee of ladies, and great credit is due to them—and especially to Miss Gritton, the Honorary Secretary —for the success which attended their efforts. The lower

ward in the new wing in which the dance was held, was prettily decorated with Chinese lanterns, and the corridor with plants and ferns and fairy lights.

So much for the hospital, now about the Society. Reference may first of all be made to the great success of the annual dinner. There were about 121 acceptances including those of the guests, and altogether about 100 members and guests were present. Nothing shows better the *esprit de corps* of a Society than a large attendance at the annual function—the dinner. On the other hand, a meagre attendance is depressing and demoralising to those who are present, and is apt to cause the guests of the Society, who have been especially invited, to reflect unfavourably upon the absence of the members, and to judge accordingly.

MENTION must next be made of the Cavendish Lecture, and of the Annual Conversazione given by the President and Council of the Society. In connection herewith, attention should be drawn to the fact that the House Committee of the hospital kindly granted the use of the lower ward of the new wing for the occasion. The Cavendish lecturer was Mr. Thomas Bryant, consulting surgeon to Guy's Hospital, and his theme was "The Centenary of the Discovery of Vaccination by Edward Jenner." The lecture will be published in full in our October number.

AFTER the usual vote of thanks had been accorded by acclamation to the lecturer, the President and Council held a reception, and the Conversazione followed. A selection of music was played by the London Orchestral Band, and during the evening several demonstrations of the X rays photography were given by Dr. F. H. Low. Among the hands photographed were Mr. Bryant's and Mr. William Bird's, the Chairman of the Hospital.

THE social attractions of the Conversazione were enhanced by the interesting exhibits of the well-known firms whose announcements appear in our advertisement pages. Messrs. Maw, Son, and Thompson and Messrs. Arnold and Son, showed surgical instruments; Messrs. Parke, Davis and Co., Messrs. Burroughs, Wellcome and Co., Messrs. Warrick Bros. and Co., Mr. B. Kuhn, Mr. Temple Cooper, Messrs. Cooper and Co., showed new drugs; while the Apollinaris Company and the Liquor Carnis Company were represented by their well-known products; Messrs. Down Bros. had also an exhibit of surgical instruments and appliances. Smoking was indulged

in and refreshments were provided. The proceedings were kept up until a late hour, the attendance of members and guests having been the largest on record.

THE Editor has been requested to announce that the Council desire to direct the attention of those members whose subscriptions are in arrears to the unnecessary trouble caused to the officers and the extra expense entailed upon the Society by the failure to remit the amount when due. The Council, therefore, trust that the subscriptions, now owing, will be paid without further delay to the Treasurer, Mr. T. Gunton Alderton, 82, The Grove, Hammersmith. An examination of the books shows that ninety members of the Society are in arrears and have been more than once appealed to in connection therewith.

IT will be of interest to those members of the Society who belong to the Craft, to learn that Grand Lodge has granted the petition for the "Cavendish Lodge," of which mention was made in our last issue. It is worthy of note, too, that when the Duke of Devonshire was applied to, he readily assented to the new lodge being called after his illustrious ancestor, and at the same time he accepted the nomination of first honorary member of the Lodge. The number of foundation members will be twenty-one, and the place of meeting will be Bailey's Hotel. Among those proposed for office are Brothers Frederick Lawrence, W. J. Walsham, Symons Eccles, P. S. Abraham, L. A. Bidwell, J. D. Mortimer Causton and Percy Dunn. Further particulars may be obtained from Dr. P. S. Abraham, 2, Henrietta Street, W.

Apropos of the paper on "Infantile Scurvy," read by Mr. Menzies at the April meeting, attention may be directed to a contribution published in the *Intercolonial Medical Journal of Australasia*, for April last, on the same subject, in which full notes are given of seven cases of the disease, occurring in the practice of Dr. Jeffreys Wood of Melbourne. The cases as well as the remarks appended thereto are interesting and instructive. We have presented the copy in question of the journal to the Library, so that it will be available for any member of the Society who may desire to refer to it.

NOTICE.—All communications relating to the Literary part of this Journal, Books for Review and Exchanges should be addressed to the Editor, Mr. PERCY DUNN, **54**, Wimpole Street, Cavendish Square, W. Applications for Copies of the JOURNAL, communications respecting Advertisements, and Instruments, Pharmaceutical Preparations, &c., intended for notice, should be forwarded to the Editorial Secretary, Mr. L. A. BIDWELL, **59**, Wimpole Street, Cavendish Square, W.

THE

West London Medical Journal.

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Original Communications.

THE MECHANO-THERAPY OF CARDIAC DISEASE.

By A. Symons Eccles, M.B.

(*Being the retiring Presidential Address.*[1])

To-day, at the close of a session marked by no inconsiderable signs of vigour, vitality, and development for our Society, I will not ask you to follow me into the discussion of more or less abstruse questions of chemical physiology and pathology; but I would invite you to consider very briefly a few well-ascertained facts in regard to the effects of passive, active, and resisted exercises upon certain forms of cardiac disease. My reason for so doing is that during the past year much has been written upon the remedial effects of what is known as the Nauheim or Schott method of treatment in heart disease, while little has been said or written in favour of other modes of applying mechano-therapy for similar conditions, although,

[1] This address was prepared for delivery on the occasion of the Annual Meeting on July 17, 1896. Owing, however, to sudden illness, the President was unable to be present; in his absence, therefore, the concluding words only were read to the meeting by the Senior Secretary.

in the experience of some, they would seem to be equally valuable and perhaps somewhat less complicated than the elaborate system of baths and resisted exercises practised and advocated at Nauheim and in this country. My apology for introducing this subject to your notice at a season when, perhaps, I am encroaching on time which you might be spending more pleasurably in recreation elsewhere, is one which, I trust, will be deemed sufficient. Some of the writers on these matters have done me the honour to refer to certain of my contributions to the literature bearing on cardiac mechano-therapy, while others do not appear to be aware that the effects of massage upon the circulation were observed and published in this country as early as 1887, in which year I also demonstrated them before a large number of British Medical Associates at the Dublin meeting. During my term of office as your president, my duties in that capacity, coupled with the work which we all as busy practitioners desire to accomplish conscientiously, have left me little leisure to compile notes and records of cases of cardiac disease and circulatory troubles in which passive exercise (*i.e.*, massage) assisted, resisted, and active exercises have been used in treatment. Thus then, since 1894,[1] I have been unable to refer to the subject save briefly in my work on the "Practice of Massage," published in June last year, wherein reference is made to the methods of Schott and of Oertel, and to Brunton's paper on "The Use of Rest in Cardiac Affections." While I am desirous of rendering every honour to the initiators of the Nauheim method, which is a combination of baths and exercises, not infrequently associated with massage, as I gather from the paper of Dr. Saundby,[2] and from a note on the treatment of his own case by Dr. Allen Sturge,[3] to which I replied, I am not disposed to support the claims made by some for Drs. August and Theodor Schott, that they invented the resisted exercises known in Germany as "Widerstand Gymnastik," and I feel sure that neither Dr. Theodor Schott nor his late lamented brother

[1] "Mechano-Therapy in Chronic Diseases of the Heart," *Practitioner*, vol. liii., p. 106, August, 1894.

[2] *British Medical Journal*, No. 1818, p. 1081, November, 1895.

[3] *Ibid.*, vol. i., p. 527, 1895.

would have laid claim either to the invention of exercises taught and practised in Sweden for many years past, or to the discovery of the effects of muscle-kneading on the pulse rate, and the exclusive knowledge of the mode in which to apply massage for the reduction of rapidity of the cardiac rhythm, certainly known, practised, and described by myself in January, 1887, and published in June of the same year.[1]

By all means let it be conceded that a combination of effervescent and alkaline baths, with very carefully systematised and gently resisted exercises, may, under careful supervision, be practised here or elsewhere, and let us give to the pioneers and inventors of this combined treatment the highest credit; for there is little doubt that we owe to them the growing enthusiasm in favour of dealing with cardiac arhythmia by these means. At the same time, it is rather deplorable to see some writing and talking as if none but themselves had ever employed exercises, passive, active, and resisted, for patients in the recumbent position as a means of treatment in heart disease. I would ask those of you who are interested in this question of the treatment of heart disease to read the article by Dr. Lauder Brunton[2] already quoted, and my own, also referred to, from which you will gather the measure of success that may attend the treatment of severe and slighter forms of heart disease by absolute rest in bed, followed by massage, assisted, unassisted, and resisted exercise, and ending with carefully-planned active exercises. I do not wish to occupy time unnecessarily in recapitulating details which have already been published elsewhere; but it is of the utmost importance to avoid producing a false impression when advocating the use of any therapeutic agent. Let us see for a moment what are the cases for which Dr. Schott believes the treatment systematised by his late brother and himself to be superior to other methods. We are told that it is specially adapted for all valvular affections not complicated by serious myocardial degeneration, by aneurism, or by advanced arterio-sclerosis; for simple dilatations, functional debility, irritability, and tachycardia. These views are supported by Dr. Bezly Thorne and others in this country; diagrams, pulse tracings, and the

[1] *Practitioner*, vol. xxxviii., p. 401. [2] Vol. li., p. 190.

most careful methods of physical examination being employed in support of the theories and practice promulgated and adopted by what one may describe as the Nauheim school.

Moreover, Dr. Bezly Thorne advocates the careful employment of the same means in the conditions of arterio-sclerosis and aneurism at an early stage. I would ask, in passing, what we should regard as the early stage of an aneurism? As soon as an aneurism is sufficiently obvious to be diagnosed, I doubt whether it is possible to describe such a condition as an early stage, for we cannot always judge, even from the history of the case, how long the vessel has been diseased or when it first began to give way. It is not possible to explain by any physical laws how the employment of resisted exercises can be beneficial in cases of aneurism, though it is quite easy to understand that if you cannot persuade a patient suffering from arterial disease to keep quiet and to relinquish all other forms of exercise save by substituting very gentle rhythmical movements, such as the Nauheim or Swedish resisted exercises, you may certainly be able to demonstrate improvement, not as the result of your active treatment, but because the careless and uncontrolled, often vigorous, efforts of a man afflicted with aneurism may be subdued when, in addition to the solemn administration of "Widerstands gymnastic," you enforce the most rigorous repose in the intervals. The rest thus secured is the source from which benefit will arise, while the suggestion that something more tangible is being done will doubtless act on the patient's mind to the further reduction in force and volume of his circulation through the damaged vessel.

Again in regard to the employment of baths and exercises in conditions of sclerosis and atheroma of the vessels the same difficulty arises, though not to so great an extent; for here indeed, at their commencement, there may be no deficiency, but rather exaggeration in the force of the heart beat. Sclerosis and atheromatous degeneration of the vessels is preceded by greatly increased tension throughout the vascular system, and with the resistance thus arising in the smaller arteries, there is also an increased force and frequency of the heart's beat, leading to excessive arterial tension. So that two forces are opposing each other, resulting in such an increase of work, thrown both on the heart and on the

vessels, that, according to Huchard, on the one hand, inflammatory lesions of the vessels are produced, while, on the other, the heart becomes affected either by dilatation of its cavities, or by the spread of the arterial inflammation to the vessels of the myocardium, so interfering with the nutrition of the heart muscle. At the outset of sclerotic or atheromatous vascular disease, the heart may be called on to work with redoubled force in order to overcome the resistance occurring in the periphery, and under these circumstances very carefully-regulated muscular movements may be valuable in fostering vaso-dilatation, and thus relieving the obstacle produced by the prevalent high tension. In such cases the dosage and character of the exercise to be prescribed must assuredly be of the utmost importance, and it appears to me that much disappointment may be avoided if, instead of employing the Nauheim treatment at the outset, rest and passive exercise, such as is afforded by massage under strict supervision, are given as preliminaries to the more active movements which can be initiated during the course of the treatment, and gradually increased, if it transpires that no undue acceleration of the heart's action supervenes on their use. It is true that one of the evils of rest in cardiac cases is the enfeeblement of the heart's action consequent on the prolonged adoption of the recumbent position; but this may, in a great measure, be avoided by the regular administration of massage, and the gradually increased exercise of the limbs, at first by passive, and later on by assisted, unassisted, and resisted movements. It is surprising to see how rapidly œdema, breathlessness, and dyspnœa may be overcome by these means in cases of serious mitral disease. The risk of debilitating the heart by rest does not seem to be so great when these means are employed as is the danger of cardiac fatigue from over-exertion, much more difficult to avoid when the patient is called on to perform the very gentlest exercises. For when the resisted exercises are carried out, the first indication that they are accompanied by too great effort on the part of the patient is the acceleration of the heart's beat, and so soon as this occurs you have produced a condition of cardiac overwork which will do more harm in a few minutes than all the good that several successful applications of resisted movements could bring about.

By all means let us use every weapon to combat the evils

of dilatation, to hasten compensation, relieve irritability, and reduce heart hurry; let peripheral resistance be minimised, arterial tension be reduced, the pulse rate be decreased, and dropsy disappear with asthma, bronchitis, breathlessness, dyspnœa, and indeed all the troubles which may be overcome or ameliorated by mechanical or hydro-therapeutical means.

But are not the enthusiasts of the Schott method rather disposed to treat patients with chronic cardiac maladies somewhat after the fashion in which H.M. ships are dealt with when about to be commissioned? Then, I believe, the machinery is tested under forced draught, at high speed, over a measured mile. The initiation of resisted exercises, however, carefully administered and gently graduated, may be an excellent test of what a diseased heart can live up to and perform; but supposing that the pulse rate is accelerated and not diminished! What if the area of cardiac dulness is perhaps increased rather than reduced? Such untoward results have occurred even with the well-regulated efforts of the best practitioners. Then what is to be done? It appears that occasionally in such cases massage is resorted to, and with the very best results. Now it occurs to me, after having seen some few cases of success and failure following the employment of the Nauheim methods, that the cart is placed before the horse in advocating baths and resisted exercises as the initial means for accomplishing what is desired. There is no indication fulfilled by the Nauheim baths and exercises which may not be equally rapidly brought about by the combination of rest, massage and exercises, passive, active, resisted, and locomotive, as described by me in the *Practitioner* (vol. lxiii., p. 106, *et seq.*); and in severe cases, if the especial precautions enjoined by Dr. Brunton, in his article already quoted, are strictly observed, I believe that results, certainly as good, if not better, will follow the employment of this less heroic method than may be brought about by subjecting the patients to the risk and fatigue which the most scrupulous care cannot forfend when baths and resisted movements are prescribed *ab initio*. Pray do not misunderstand my attitude towards the methods so ably advocated and efficiently carried out by those from whom we must all have learned much. If they had not achieved the brilliant results already recorded, and even if

the methods should prove to be less lasting in those results than we hope and believe, they have certainly stimulated the interest of our profession in the physical signs, modes of examination, and means of minimising the ills arising out of impaired cardiac and vascular functions. At the same time, as I have elsewhere pointed out,[1] it is not improbable that the area of cardiac dulness, in other words the capacity of the heart cavities, undergoes rapid variations, and, just as I have observed in cases of ectasia ventriculi, so also in cardiac dilatation, alternations of contraction and relaxation do occur which might mislead us to believe that treatment had produced an effect not strictly attributable to the means adopted.

For instance, we all know that if we would gauge the rapidity of a patient's pulse we should not base our conclusions on an observation made immediately on our arrival at the bedside; but say that we visit a case of cardiac disease, and propose to perform some resisted movements; perhaps we take with us a skilled assistant to carry out the prescribed exercises. The patient, before our arrival, has been reclining on a couch or otherwise engaging in some quiet, unexciting pastime. We examine the heart, and, armed with red and blue pencils, proceed to map out the præcordial area. We find evidences of greatly increased cardiac dulness and a very tumultuous state of the circulation. With the greatest gentleness, and in the most reposeful manner, we complete our examination and initiate the resisted movements. By the time the exercises are over our patient has probably lost the nervousness and agitation which so often is induced by the announcement of the doctor. The slow, quiet, rhythmical motions, gently resisted by a respectful attendant will doubtless serve to tranquilize the mind of the sufferer, whose hurried pulse and respirations will subside into quiescence under the soothing influences of our tactful, gentle, and sympathetic demeanour, all of which will be aided by the announcement, at the close of the *séance*, that the pulse has dropped down by many beats, and, with a few strokes of a red pencil within the line of blue, we are able to assure the sufferer that the exercises have succeeded marvellously, and that we will repeat them at an early date. All perfectly true, *bonâ fide*,

[1] "Practice of Massage," p. 357.

and real; only I am not yet satisfied that the conditions are such as to warrant the self-gratulation we might indulge in on the excellent and remarkable effect of our ministrations. Similarly in regard to the baths, after the exertion of reaching the bath, even in a carrying-chair, and in spite of the help in discarding the clothing afforded by a good attendant, both cardiac dilatation and rapidity of pulse-rate will be augmented, and again undergo diminution after resting in the bath for six or eight minutes; but it has not yet been conclusively shown that the effects of the bath last for many minutes after its administration; though of course in those cases in which the treatment has proved useful the duration of the effect must be prolonged.

For the temporary effects on the cardiac area of dulness, as on the pulse-rate, they can be, and are, equally well produced by massage, and have been already referred to. As to the permanent effects, I have records of patients who suffered from dilatation of the left ventricle, mitral disease, with dyspnœa and tachycardia, post-influenzal cardiac irritability, and anæmic obesity, with syncopic attacks, who have been free from any unpleasant symptoms for three, four, and two years. On the other hand, there have been cases of aortic regurgitation, mitral disease, and anæmic obesity, with systolic murmur, which have relapsed; and one case, afterwards treated at Nauheim, which subsequently proved fatal. Whatever may be the mode of treatment we may select for many of these distressing cases, the best results are not attainable, and we can only hope to alleviate. Hygienic measures must always be kept in the forefront; and no doubt some of the good derived from systematised therapy is due to the better control we gain over the daily life and habits of our patients; for those of them who belong to the wealthier or more easily-placed portion of the community, the advantages of a "rest cure," or a "movement cure," or a combination of both with other means, are the same, and for much the same reasons, as those derived by our poorer friends, who gain a great deal of good from the better hygiene and rhythm of a hospital into which they are admitted. The test of the value of one method over another can only be approximately made when patients, as nearly as possible suffering from the same maladies, are derived from

the same class, taken from similar surroundings, and subjected to the different treatments in the same environment. Failing such a trial, I prefer the means employed by me hitherto, for which I claim no originality save in combining the rest recommended by Dr. Brunton with the massage practised by myself and the exercises which, I believe, were first elaborated in Sweden. Add to these the graduated locomotion of Oertel, and you have the West London method of treating chronic cardiac disease.

Gentlemen,—Through your courtesy and good-fellowship, I have attained the high honour of being your President; by your kindness and sympathy I have been sustained under grievous bereavement and affliction; with your forbearance and support, aided by the cordial co-operation of your officers and Council, I have had the good fortune to occupy this chair during a session signalised in the annals of our Society by unprecedented success, development, and prosperity; and it only now remains for me to thank you and them for the happy privilege you have conferred on me of serving you in the highest office of the Society, for which I have always felt, and shall always cherish, the greatest affection.

In wishing, what we all desire, the continued and increasing prosperity of the West London Medico-Chirurgical Society, I am sure that no circumstance could more thoroughly conduce to it than the election to-night, as my immediate successor, of the eminent surgeon whom you have chosen as your President for the coming session.

ABORTION.—Dr. Jacub (*Monatschr. f. Geburtsh. u. Gynäk.*, September, 1895) thinks the right treatment in abortion is rest and opium, with extract of viburnum prunifolium. If there be free flooding with the os closed, the vagina should be plugged with iodoform gauze or aseptic wool. If the os be dilated to allow passage of finger, the ovum should be detached and extracted and the uterus syringed out once for all with any suitable disinfectant solution. When dilatation of the os is imperfect and flooding grows severe, it is right to press the finger forcibly through with great care and then effect extraction. In many cases the expulsion of the ovum may be left to Nature. Ergot should be given for a week after abortion. Jacub deprecates the employment of the curette and vaginal irrigation.

THE CAVENDISH LECTURE ON THE CENTENARY OF THE DISCOVERY OF VACCINATION BY EDWARD JENNER.[1]

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ONE hundred years ago a medical practitioner residing in a remote village in Gloucestershire, and who might have been described as obscure, wrote to Mr. E. Gardner of Frampton, an old and intimate friend, the following letter, dated from Berkeley, June 19, 1796.

"DEAR GARDNER,—As I promised to let you know how I proceeded in my inquiry into the nature of that singular disease the cow-pox, and being fully satisfied how much you feel interested in its success, you will be gratified in hearing that I have at length accomplished what I have been so long waiting for—the passing of the vaccine virus from one human being to another by the ordinary mode of inoculation. A boy of the name of Phipps (aged 8) was inoculated (on May 14) in the arm from a pustule on the hand of a young woman who was infected by her master's cows. Having never seen the disease but in its casual way before, that is, when communicated from the cow to the hand of the milker, I was astonished at the close resemblance of the pustules in some of their stages to the variolous pustules. But now listen to the most delightful part of my story: The boy has since been inoculated for the small-pox (July 1) which, as I ventured to predict, produced no effect. I shall now pursue my experiments with redoubled ardour.

"Believe me, yours very sincerely,

"EDWARD JENNER."

The letter I have just read is now in the possession of the Royal College of Surgeons of England with a large number of other valuable Hunterian, Jennerian, and Baillie records, which are to be treasured by the College for all time as a

[1] Delivered before the West London Medico-Chirurgical Society on June 17, 1896.

distinct collection under the name of the Hunter-Baillie collection. The whole having recently been kindly presented to the College through me, according to the wish of the late Mr. William Hunter-Baillie and his surviving sister, Miss Helen Baillie. The pleasure with which Jenner indited this letter to his trusted friend, and reported the complete success of his crucial with his control experiment on vaccination, can be understood in a measure by all of us, and we can likewise appreciate how by his success in his well thought out experiment he was encouraged to go about his work with redoubled ardour. At any rate, the interest the perusal of this letter has raised in my mind and the possession of the letter with other original papers connected with Jenner and his work has induced me in addressing this Society, which bears the honoured name of Cavendish, the great chemist of the air, to bring before your notice the doings of another great Englishman, who has both directly, by the discovery of vaccination, and indirectly, by introducing a new method of investigation, been of incalculable advantage to his fellow creatures all over the world. And as this year is the centenary of Jenner's discovery I have been encouraged to bring his name and good work before you.

Edward Jenner was born at Berkeley, Gloucestershire, on May 17, 1749, and died on Jan. 26, 1823. He studied medicine and resided for two years as a house pupil with John Hunter when he was 21 and Hunter was 42 years of age, and always subsequently referred to Hunter as the "dear man." A close friendship between these men succeeded this period for at least a quarter of a century, as proved by a correspondence which continued nearly up to Hunter's death. Indeed, Hunter's opinion of young Jenner must have been very high, for in 1775 when Hunter started his school of anatomy he asked Jenner to join him as a partner; and that the two men were intimate is proved by a letter from Jenner to Dr. Heberden that in 1778 Jenner had recognised the existence of the heart trouble from which Hunter died on October 16, 1793. In 1771, as soon as Jenner left Hunter's house, he commenced his systematic inquiries into the subject of cow-pox, and particularly into the truth of the floating opinions and scattered observations which had been made as to its influence; for in some of the dairy counties—particu-

larly those of Gloucester and Buckingham—the fact had long been recognised that the dairymaids who had contracted cow-pox were far less susceptible to small-pox than others who were differently placed, and it is more than probable that Jenner had told this to John Hunter and had been stimulated by his precept and example to follow out this clue to its legitimate conclusions. Jenner was probably unaware of an isolated example of vaccination by B. Jesty in 1774, and of another in Holstein in 1791 by P. Plett. At any rate John Hunter never took the subject up, and it was left to Edward Jenner to realise the full value of these observations, to confirm them by way of experiment, and to apply them by a happy thought or stroke of genius to the lasting benefit of his fellow creatures. That Jenner understood the full meaning of the investigation he was following out, and the measure of good his work was likely to achieve if brought to a successful issue, is perfectly clear from the following conversation he had with his friend Gardner sixteen years before he made the crucial experiment recorded in the letter, with the reading of which I commenced this lecture, and nine years after he had commenced his study of the subject. In 1780 Jenner, when riding on the road between Gloucester and Newport with his intimate friend Edward Gardner, went over the natural history of cow-pox. He stated his opinion as to the origin of this affection from the heel of the horse; an opinion which was never accepted in Jenner's time, but which has since been established, beyond room for doubt, by H. Bouley of Alfort, he having proved in 1862 the fact that the grease is a specific disease of the horse analogous to cow-pox and interchangeable with it. He likewise specified the different sorts of disease which attacked the milkers when they handled infected cows; dwelt upon that variety which afforded protection from small-pox; and with deep and anxious emotion mentioned his hope of being able to propagate that variety from one human being to another till he had disseminated the practice all over the globe, to the total extinction of small-pox. "Gardner," he said in conclusion and with great emotion, "I have intrusted a most important matter to you, which I firmly believe will prove of essential benefit to the human race. I should not wish what I have stated to be brought into conversation, for should anything untoward

turn up in my experiments I should be made by my medical brethren the subject of ridicule." In 1780 the conversation I have just quoted took place; in 1796, sixteen years later, the success of his crucial experiment was reported to the same friend; and between 1796 and 1798, when he published his first treatise on cow-pox, he repeated the experiment over and over again. Indeed, he inoculated at least one hundred children with cow-pox, and subsequently at different intervals with small-pox without effect before he ventured to communicate his discovery to the world. Jenner did not publish his discovery till 1798—that is, two years after the success of the crucial experiment he had performed on the boy "Phipps," which had proved to him the truth of his theory, and which helped him, as he expressed it, to pursue his experiments with redoubled ardour. He was not so eager to reap the fruit of his labour as to bring it to market before it was ripe, but he cautiously went over the ground again and again, by experiment and counter-experiment, until there was no room for doubt; so that when, in June, 1798, he gave the ripe conclusions of his prolonged investigation under the heading of an "Enquiry into the causes and effects of the variolæ vaccinæ" to an astonished and admiring world, its form and substance was so clear, simple, and convincing, that his work was at once accepted and the practice based upon it speedily diffused over all countries. Indeed, France, Russia, Germany, Austria, Spain, Switzerland, Denmark, Norway, America, and India all vied with one another in their efforts to spread the means of contending with such a loathsome and fatal malady as small-pox had for so many centuries proved to be.

France forgot its jealousy and accepted the boon from England's son with candour and alacrity. She founded institutions and societies for its extension under Government sanction, and the Central Government Committee reported so early as 1802 that "there has not been one example to prove that amongst ten thousand individuals inoculated with the cow-pox a single one has been infected with the small-pox, though being in the midst of the contagion." In 1803 they were still convinced of the reality of the advantages ascribed to it, and returned what they described "as a just tribute of acknowledgment to Dr. Jenner, being fully persuaded that he will hereafter be remembered among those who have reflected

the greatest honour on science and rendered the most important service to mankind." Dr. Valentine, of Paris, worked nobly to introduce and extend the practice.

In 1803 the Government of Denmark so effectually enforced the practice of vaccination that small-pox was rapidly extirpated from the country, and soon afterwards it prohibited variolous inoculation altogether. In 1821 not a single case of small-pox had occurred in Denmark for a period of eleven years. In 1826, however, a traveller from Hamburg re-introduced the disease.

In Sweden vaccination was taken up very warmly, and as a consequence, in 1802, variolous inoculation had been given up, and in 1803 vaccination was established by law. On Feb. 10th, 1814, the Government of Sweden reported that small-pox had been perfectly extirpated in that country. In 1823 its mortality, at any rate, had dropped from 15,000 a year to 37. Dr. Edwards has within the last month recorded the facts, as demonstrated by official records, that whereas before vaccination 1 death occurred every year from variola in every 488 of the population, the average annual mortality of the disease for the last seventy-seven years has been 1 in every 6,451, or $\frac{1}{13}$ part of the former average.

In 1801 vaccination was introduced into Russia, and the story of its introduction, which is so indicative of faith in its value and energy in its use, is worthy of repetition. The Court was at Moscow, on account of the coronation of the Emperor, and the child who was first inoculated was patronised by that exalted and truly philanthropic personage, the Empress Dowager, who named her "Vaccinoff," sent her in one of her own coaches to St. Petersburg to be placed in the Foundling Hospital, and settled on her a pension for life. Her Majesty likewise transmitted on Aug. 10th, 1802, a valuable diamond ring to Dr. Jenner, accompanied by a flattering letter written by her own hand. This act was followed by the adoption of vaccination through the Russian dominions. The nobles themselves inoculated the peasants with their own hands. Indeed, in Russia vaccination proved so successful that it was termed in the language of the country the "pock of surety," and no wonder, when we were told that variola before that period was the cause of death in Russia of every seventh child, and sometimes was said to have destroyed two

millions of people in a year. Woodville and Guthrie, two great authorities of that day, believed it not improbable that the great population of these regions, which formerly enabled them to pour such immense numbers over Europe, had been greatly lessened by this disorder.

In Germany vaccination was introduced through Hanover, and the King of Prussia was the first crowned head who had the vaccine inoculation performed on his own children. He established a vaccine institution in the capital of each part of his dominions and appointed a Berlin physician to the institution in that city with a suitable salary.

In Austria vaccination was introduced into Vienna in 1801 and taken up very warmly by Dr. de Carro of that town, who, when he vaccinated a child of a medical friend four and a half hours after its birth, expressed the wish that vaccination and christening should be one ceremony, as by such a practice small-pox would be soon eradicated. It was said that this excellent idea was supported by the celebrated Dr. Darwin, who, from opposing the practice at its commencement, became, before the year 1802, one of its warmest supporters.

Its effects in diminishing the mortality of small-pox in Vienna was very evident by comparing the number of deaths since its introduction in 1801 down to 1804 with the average of the ten years before its introduction :—From 1791 to 1800 inclusive the deaths were 835 a year; in 1801 (the year of the introduction of cow-pox into Vienna) the deaths were 164; in 1802, they were 61; in 1803, 27; and in 1804, 2.

In Lombardy the practice was so popular and so much enthusiasm as to its adoption was felt that in 1805 Dr. de Carro, of Vienna, reported that Dr. Sacco travelled from one town or village to another, and the children were assembled in order to be vaccinated by the ringing of the church bell.

Spain took up the practice of vaccination very warmly, and both at home and abroad spared no efforts to confer its benefits upon all its children—indeed, one of the prettiest incidents connected with the early history of vaccination was brought about by the Spanish Government and is worthy of being recalled to mind. When evidence had been brought before the Spanish Government that both in India, Ceylon, and other Asiatic countries the vaccine inoculation had completely succeeded, " the Spanish monarch resolved to fit out

an expedition for the express purpose of carrying to all the possessions of the Crown of Spain beyond the seas, and to those of several other nations, the inestimable gift of vaccine inoculation. An expedition was prepared which set sail from Corunna on Nov. 30th, 1803, under the direction of Dr. Francis X. Balmis, Surgeon-Extraordinary to the King. There were on board twenty-two children who had never undergone small-pox selected for the preservation of the vaccine fluid by transmitting it successfully from one to another during the voyage. After an absence of nearly three years the able conductor of this philanthropic expedition returned to Madrid, having circumnavigated the globe and having more than realised the most sanguine expectations that were entertained at his departure."

In America vaccination made early and rapid way, for Dr. Waterhouse, as soon as he received a copy of Jenner's book, which he did within six months of its publication, was so struck with the importance of the subject, and the incalculable benefit which might accrue to his country from its adoption, that he immediately communicated to the public a sketch of the discovery; and this effort on his part was most favourably received by Mr. John Adams, the then President, who wrote on Sept. 10, 1800, "to disarm the small-pox of its contagion is an enterprise worthy of a Hercules in medicine." Mr. Jefferson, the succeeding President, continued to support the same, so that in 1802—four years after Jenner's book was published—vaccination had become widely extended through the United States and likewise among the Indians, who received it as a blessing from Heaven.

In 1806 it was reported that in Mexico and Peru, where small-pox every year had played sad havoc, by means of vaccination variola, had lost much of its malignity, so that at that date—eight years after its introduction—the number of children who fell victims to it had been reduced in the proportion of nine to one.

In China, even, much success was soon achieved, and at Canton the first British book that had ever issued from a Chinese press was published upon the subject in order to promote the knowledge of the discovery.

In India the practice was rapidly adopted and extensively practised. In 1802 it was recorded that no less than 800,000

natives had been vaccinated. The Brahmins at first objected to it as it proceeded from the sacred cow, but when the chief of the Mahratta empire had one of his own children vaccinated, many others followed suit, and so, at last, the cow-pox inoculation became so popular as to be named "the dew of heaven."

In England, and particularly in London, vaccination, in common with all other great movements, was sadly opposed—prejudice and the pleasure of opposition had its influence, and inefficient and careless methods helped both. A striking instance of incredulity was exhibited on March 28, 1808, at a place of public discussion in London, called the British Forum, when the following subject was brought forward for discussion: "Which has proved a more striking instance of the public credulity, the gaslight of Mr. Winsor or the cow-pox inoculation?" The result of the discussion was that both gaslight and cow-pox were handed over to scorn and ignominy. That credulity as to the value of vaccination itself was rapidly displayed after its introduction was not surprising, as well as incredulity as to the relative value of cow-pox and small-pox inoculation, which was then in vogue; indeed, such feelings were but natural. Hostility and opposition to the practice of vaccination as well as to the theory upon which it was based was also to be anticipated, for the curious tribe of anti's, including "anti-vaccinists," as they were then called, has always been present in the world and still exists; and although those unreasonable people may do some harm amongst the thoughtless and ill-informed, they help to stimulate healthy exertion and at the same time give the public an opportunity of studying human nature in one of its oddest forms. Nevertheless, it is clear that hostility to the practice of vaccination was very serious, for the writer of an able article in the *Edinburgh Review* for 1806 upon the subject (vol. iv., p. 33) wrote that "in the whole course of our censorial labours we have never had occasion to contemplate a scene so disgusting and humiliating as is presented by the greater part of this controversy; nor do we believe that the virulence of political animosity amongst the lowest scribblers ever gave rise to so much coarseness, illiberality, and absurdity as is here exhibited by gentlemen of sense and education discussing a point of professional science, with a view

to the good of mankind." That carelessness in the operation of vaccination and in the transference of the vaccine virus had in Jenner's time, as in our own, some influence for harm in an occasional instance is also true; but such a fact is no more an argument against vaccination than any other act, for carelessness, of all human virtues, must be calculated upon as a human certainty. In Jenner's time carelessness must, however, have had a more pernicious influence, for the vaccine inoculation was not confined to members of the medical profession. In 1800 it was openly practised by some of the clergy. In a pamphlet before me, dated 1806, I read that a Mr. J. T. Read, who was curate of Leckhampstead and Akeley, near Buckingham, in March, 1800, began to vaccinate both the labourers of those villages and bodies of men who were working at the Grand Junction Canal, which was then in progress, and that in the course of six years he had inoculated upwards of 4,700 persons, and that not one of his cases had subsequently had small-pox, although many had run extreme risks. This custom of amateur vaccination was, indeed, so general that the National Vaccine Establishment, in its report for 1815, drew attention to it in the following terms, which, please note, are commendatory and not, as they would have been in this age of Medical Acts, the reverse: "The Board cannot omit to direct your lordship's attention to the *meritorious conduct* and zealous exertions of private individuals, not of the medical profession, who have not only vaccinated many hundreds every year, but who have studiously maintained a supply of lymph in their districts for the perpetual renewal of vaccination. It has particularly noticed the ardent zeal of Mr. Ellis, of Rhos Farm, who has vaccinated several thousands in North Wales without a single failure, and also of the late Rev. Mr. Holt and the Rev. Mr. Finch, two of the earliest friends to the practice and who met with undeviating success, a success which puts to shame the negligent practice of some belonging to the medical profession." In 1818 the National Vaccine Establishment were so pleased with public non-professional assistance that they appointed honorary vaccinators to help in their work, and most of them were private gentlemen, ardent patrons of vaccination. This act, on their part, was somewhat curious, for at this time the same establishment began to recognise the

necessity for acquiring knowledge as to the best modes of practice, for reports came in of failures, or supposed failures, which were of course exaggerated in the eyes of the public and helped the quacks and sceptics to encourage variolous inoculation, which at this period of the world's history seemed to be very much in their hands, with those of farriers, publicans, nurses, and low, cunning people of both sexes and of various descriptions.

I propose now to say a few words about the success of vaccination, for its very success at the present time is employed as an argument against its use. Indeed, small-pox since the introduction of vaccination has so steadily and rapidly diminished, that the present generation of people until lately have little knowledge of its existence, and consequently hardly understand the necessity of seeking a preventive for an affection which seems so remote; and I question whether the present generation of medical men are fully alive to its former dangers. The following brief observations may consequently be of interest. It may be accepted as a correct statement that before the vaccine inoculation was introduced in 1798, that 3,000 lives in London and 40,000 in the United Kingdom were *annually* the direct victims of small-pox, and that these numbers multiplied by six—or 18,000 in London and 240,000 in the United Kingdom—indicated the number of people who had been affected with the disease every year. Out of every 1,000 persons who died from any cause, 100 died from small-pox and 600 had it, for 1 out of every 6 infected with small-pox died from it. This mortality was calculated when the practice of variolous inoculation had been very general, whereas before inoculation was introduced 1 out of every 3 persons attacked by natural small-pox died. It may also be accepted as true that those who survived the ravages of the disease, a number—at least twice as large as that given to indicate its fatal average—were afflicted with blindness or hideous deformity which rendered life miserable. Indeed, Mr. Moore, the author of an excellent pamphlet ("A Reply to the Anti-vaccinators of 1806"), referred to the well-known Institution in the South of London for instructing the indigent blind, and reported that no less than three-fourths of its occupants had lost their sight from the small-pox. These figures taken together suggest an amount of

preventable human misery which is appalling, as it affected every year 130,000 of our own countrymen and women. At the present time the mortality of small-pox appears but trifling, for in 1894 the Registrar-General reports that in a population of over 30 million persons, in which the death-rate was 16·6 per 1,000, the deaths from small-pox were only 820 or 27 per million people, or one death from small-pox in every 37,000 persons. And in 1895, in the metropolis, out of a population of 4,400,000, there were 55 deaths from small-pox, or one in every 80,000; and out of 1,546 deaths one only was from variola, whereas 100 years ago, instead of one death from variola out of the 1,546 deaths, there would have been 154 deaths. In the Continental war of 1870, in the well-vaccinated German troops, there were but 300 deaths from small-pox; whereas in the imperfectly vaccinated French army there were 23,400 deaths from the same disease. Jenner always considered small-pox and cow-pox as modifications of the same distemper, and that in employing vaccine lymph, we only made use of means to impregnate the constitution with the disease in its mildest, instead of propagating it in its virulent and contagious form, as is done when small-pox is inoculated.

"It is," he wrote later on, "the small-pox in a purer form than that which has been current among us for twelve centuries past. The security given to the constitution by vaccine inoculation is exactly equal to that given by the variolous. To expect more from it would be wrong."

In 1811 Jenner wrote: "At the commencement of vaccination, I deemed variolous inoculation after vaccination the necessary test of security. I now—that is, thirteen years later—feel confident that we have one of equal efficacy, and infinitely less hazardous, in the re-insertion of the vaccine lymph." Jenner clearly by this observation recognised the value of re-vaccination. He also advocated the use of lymph from the calf when it can be procured.

The question of variolous inoculation claims briefly our attention, for it was carried out throughout the world for many years with variable success.

The practice of inoculating the small-pox as we now vaccinate for cow-pox was recognised in Constantinople and Venice in 1714-15, and although its introduction into England was

said to have been at about that date, its true adoption was unquestionably due to the influence of Lady Mary Montague, the wife of the British Ambassador at Constantinople in 1717, who had a child of hers so inoculated at Constantinople by Mr. Maitland, surgeon to the embassy of that town, and in 1722 a second who was in England, this case being the first known subject of the new practice in civilised Europe. The practice, however, made but slow progress, and in 1740 it had almost fallen into disuse. But about this date good accounts of its success had been reported from South America and the West Indies, and under this influence the practice was revived.

In 1754 variolous inoculation was described as a noble and blessed discovery, and the College of Physicians declared their fullest approbation of the practice and thus favoured its adoption. They failed, however, to support as they ought to have done the recommendation to keep the infected apart from the non-infected members of the population. As a consequence of this support from high quarters, variolous inoculation became prevalent in 1760. In 1768, or eight years later, what was known as the Sutton's method of inoculation also helped to spread the practice, aided by the encouragement given to it by the Empress Catherine of Russia, who invited Dr. (afterwards Baron) Dimsdale of this country over to St. Petersburg to inoculate her and her son Paul. Nevertheless, inoculation of small-pox was but a mixed blessing, for experience proved that instead of mitigating, it actually extended the evil, for although the proportion of those who died by it out of a certain number infected (1 in 200) was less than before its adoption, when it was 33 in every 100, yet the actual number carried off by it was greater. The cause of this was obvious: while the small-pox was more fatal in appearance caution was alive, and whenever the disorder appeared it carried such terrors with it that communication was cut off as much as was practicable, and every house shunned as a pest-house where its effects were so visible. A plague that carried off a third of those attacked, it was natural to fly from; but when by the introduction of inoculation and an improved mode of treatment, it happened to be fatal in 1 only in 200, it gradually became disregarded; the horror which before attached to it vanished

as the same consequences did not ensue, and the spreading of the infection was no longer considered as so great an evil. Lady Mary Montague, indeed, in one of her letters remarks: "Every year thousands undergo the operation"; and the French ambassador of the period said, pleasantly, that "they take the small-pox in Paris by way of diversion, as they take the waters in other countries." Contagion, in consequence, spread widely around, and the world little regarded what would have appeared to them as a paradox, but which, however, may be easily explained. Dr. Lettsom, the great physician of the time, explained this to the Committee of the House of Commons, and proved from the yearly bills of mortality that between 1667 and 1722 the average number of deaths occasioned by the small-pox was to the whole number that died as 72 to 1,000, whereas in the forty-two years after inoculation was in use—namely, from 1731 to 1772—the proportion of death was no less than 89 to 1,000, being an increase of nearly one-fourth; and Dr., subsequently Sir Gilbert, Blane, later showed that in the following thirty years from 1772, before vaccination had had time to tell upon statistics, the mortality had increased to 95 in 1,000. Dr. Blane also showed how by the inoculation of small-pox the disease was spread more extensively and became more fatal in the country than in London. For at that time there were certain districts into which small-pox, previously to the introduction of inoculation was unknown for twenty, thirty, or forty years, so that great numbers of people had died without ever having had it; but in the latter years of the last century, for the reasons adduced and from the extended communication between the distant parts of the kingdom, an adult who had not had the small-pox was hardly to be found. Although, therefore, variolous inoculation may have relieved individuals who availed themselves of its protection, it was a great evil to the people generally by universally spreading the disease. It was, however, productive of some good things, and amongst these stands the foundation of the London Small-pox Hospital, which was founded in 1746, primarily for the purpose of inoculating the poor gratuitously with variolous matter, and secondarily with the better object of keeping the patients so inoculated distinct from the general population of

the country. At this period this good object could not have been very generally appreciated, since, as I have already pointed out, the Royal College of Physicians, when it declared eight years later, in 1754, its fullest approbation of the practice of variolous inoculation, it failed to emphasise the necessity of separating the infected from the uninfected. The Small-pox Hospital, however, continued its good work, and when vaccination was first introduced its officers at once adopted the practice. They did so also with such good effect that in 1803, when vaccination had been in use for only five years, it was stated in the public report of the hospital that "variolous inoculation" might be considered as generally superseded by the substitution of vaccination. Nevertheless, it must be recorded that the prejudice in favour of variolous inoculation was so great that at the hospital itself out-patient variolous inoculation was kept up for five years longer, and in-patient inoculation for nearly twenty years—up to 1822. In 1813 the Royal College of Surgeons of London resolved that variolous inoculation was in future to be given up. Pressure was also applied to the Government to pass a law to forbid its practice, but without success. From this time, however, variolous inoculation gradually disappeared out of practice and vaccination became more general and more acceptable, so that in 1825 the medical officers of the Small-pox Hospital were able to report to Government that, whilst the death-rate from casual small-pox in the unprotected was 41 per cent., in the protected it was but 8 per cent.

They also made much of the scar of vaccination as a sign of protection, and declared "that a perfect cicatrix should be distinctly defined, perfectly circular, indented, radiated, and not larger than the size of a common wafer. The diameter of the scar is, however, of less importance than its circular and well-defined edge." This description of a typical vaccination scar is so good that I have thought it worthy of repetition. I may say that it bears the stamp of Dr. Gregory.

In 1803 the Royal Jennerian Society for the Extermination of Small-pox was instituted in London in Salisbury Square, Fleet Street. It was founded at a meeting at the Mansion House, held on January 19, 1803, and was patronised by the king and royal dukes.

I have before me the original instructions for vaccine

inoculation as laid down by Jenner in 1801, as well as those published by the order of the Medical Council of the Royal Jennerian Society, which had Jenner at its head. I shall not weary you with reading them both, but those laid down by Jenner are well worth studying.

"INSTRUCTIONS FOR VACCINE INOCULATION, 1801.

"Let the vaccine fluid be taken for the purpose of inoculation from a pustule that is making its progress regularly, and which possesses the true vaccine character, on any day from the fifth to the eighth, or even a day or two later, provided the efflorescence be not then formed around it. When the efflorescence is formed it is always most prudent to desist from taking any more of the virus from that pustule.

"To obtain the virus, let the edges of the pustule be gently punctured with a lancet in several points. It will gradually ooze out, and should be inserted upon the arm about midway between the shoulder and the elbow, either by means of a very slight scratch not exceeding the eighth part of an inch, or a very small oblique puncture.

"A little red spot will appear on the punctured part on the third day, if the operation succeed, which on the fourth or fifth becomes perceptibly vesicated. It goes on increasing till the tenth day, when it is generally surrounded by a rose-coloured efflorescence, which remains nearly stationary for a day or two. The efflorescence then fades away, and the pustule is gradually converted into a hard, glossy scab, of a dark mahogany colour. These progressive stages of the pustules are commonly completed in sixteen or seventeen days.

"A single pustule is sufficient to secure the constitution from the small-pox; but as we are not always certain the puncture may take effect, it will be prudent to inoculate in both arms or to make two punctures in the same arm, about an inch and a half asunder, except in very early infancy, when there is a great susceptibility of local irritation.

"If the efflorescence surrounding the pustule should be extensive, and occasion much local heat upon the arm, it may be cooled by the repeated application of pieces of folded linen dipped in cold water, or still more expeditiously by a strong

solution of the aqua lithargyri acetati in water—an ounce, for example, of the former in five or six of the latter.

"If the scab should at any time be prematurely rubbed off, and not succeeded by another within twenty-four hours, the part may be occasionally touched with the undiluted aqua lithargyri acetati.

"Vaccine virus, taken from a pustule and inserted immediately, in its fluid state, is preferable to that which has been previously dried; but, as it is not always practicable to obtain it in this state we are compelled to seek for some mode of preserving it. Various means have been suggested, but from the test of long experience it may be asserted that preserving it between two plates of glass is the most eligible. Let a piece of common window glass be cut into squares of about an inch each, so that they shall lie smooth when placed upon each other. Let the collected vaccine fluid be confined to a small spot (about the size of a split pea) upon the centre of one of these glasses, which should be suffered to dry in the common heat of the atmosphere, without exposure to the heat of fire or the sun. When dry it should be immediately secured by placing over it the other piece of glass. Nothing more is necessary for its preservation than wrapping it in clean writing paper.

"The virus, thus preserved, when wanted for the purpose of inoculation, may easily be restored to its fluid state by dissolving it in a small portion of cold water, taken up on the point of a lancet. It may then be used in the same manner as when just taken from a pustule.

"The vaccine fluid is liable, from causes apparently trifling, to undergo a decomposition. In this state it sometimes produces what has been denominated the spurious pustule—that is, a pustule or an appearance on the arm not possessing the characteristic marks of the genuine pustule. Anomalies, assuming different forms, may be excited according to the qualities of the virus supplied, or the state of the person inoculated; but by far the most frequent variety or deviation from the perfect pustule is that which arrives at maturity and finishes its progress much within the time limited by the true. Its commencement is marked by a troublesome itching, and it throws out a premature efflorescence, sometimes extensive, but seldom circumscribed or of so vivid a tint as that which

surrounds the pustule completely organised; and (which is more characteristic of its degeneracy than the other symptoms) it appears more like a common festering produced by a thorn or any other extraneous body sticking in the skin than a pustule excited by the vaccine virus. It is generally of a straw-colour, and when punctured, instead of that colourless, transparent fluid of the perfect pustule, its contents are found to be opaque. That deviation from the common character of the pustule, arising from vaccine virus which has been previously exposed to a degree of heat capable of decomposing it, is very different. In this instance it begins with a creeping scab of a pale-brown or amber colour, making a long and slow progress, and sometimes going through its course without any perceptible efflorescence. Its edges are commonly elevated and afford on being punctured a limpid fluid.

"A little practice in vaccine inoculation, attentively conducted, impresses on the mind the perfect character of the vaccine pustule; therefore, when a deviation arises, of whatever kind it may be, common prudence points out the necessity of re-inoculation, first, with vaccine virus of the most active kind, and secondly, should this be ineffectual, with variolous virus. But if the constitution shows an insusceptibility of one it commonly does of the other.

"When any constitutional symptoms occur in inoculated cow-pox they are commonly first perceptible, especially in children, on the fourth or fifth day. They appear again, and sometimes in adults not unlike a mild attack from inoculated small-pox, on the eighth, ninth, or tenth day. The former arise from the general effects of the virus on the habit, the latter from the irritation of the pustule.

"If the effluvia of the small-pox have been received into the habit previously to the inoculation of the vaccine virus, the vaccine inoculation will not always be found to stop its progress, although the pustule may make its advances without interruption.

"The lancet used for inoculation should always be perfectly clean. After each puncture it is proper to dip it into water and wipe it dry. The practitioner should be particularly cautious in observing that its point be free from rust, either contracted by common means or from the action of the vaccine virus, which even when dry and in contact with it has a tendency in a little time to produce it.

"The preservation of vaccine virus upon a lancet beyond the period of a few days should never be attempted, as it is so apt to produce rust, which will decompose it.

"EDWARD JENNER."

This Royal Jennerian Society, however, soon got into trouble on account of certain irregularities of its local vaccinator, and in 1808 it ceased to exist. The Royal College of Physicians of London, by the command of the King, were consequently ordered to inquire into the state of vaccine inoculation in the United Kingdom and report their opinion and observations on that practice. This was accordingly done, and the Royal College, after a full and impartial investigation of the subject, made a report, dated July 8, 1807, highly favourable to the practice of vaccination and strongly recommended its adoption. The report contained a recommendation that the poor should be encouraged to undergo the treatment by its being offered free of expense, with the hope that by such means vaccination would in time supersede inoculation for small-pox. To this recommendation the birth of the National Vaccine Establishment is to be attributed on June 22, 1808., the Home Secretary, then Lord Liverpool, having given his first instructions that the Royal College of Physicians should be consulted as to the most effective means of carrying into execution the resolution of the House of Commons respecting the formation of a National Vaccine Establishment. On December 21, 1808, a scheme was accordingly drawn up by the President of the College (Sir Lucas Pepys), in conjunction with Dr. Jenner and the Right Honourable George Rose, which received Lord Liverpool's approbation; and on December 28 of the same year the President and Censors of the Royal College of Physicians of London, and the Master and Governors of the Royal College of Surgeons in London, constituted themselves into a board, which met to carry out the scheme in a manner which should be satisfactory to the public, and creditable to the high authorities under which they were to act. The work of the institution commenced in Leicester Square, on March 11, 1809; and by May 25 of that year—in the first ten weeks of its existence—733 people had been vaccinated and 2,500 charges of vaccine fluid had been distributed. This movement was consequently the origin of our National Vaccine Establishment.

I have before me the first seventeen reports of the institution—the three first are written, the others printed—and it is pleasant to read in these pages of its steady success in all ways, although with successes came reports of reputed failures of vaccination and complaints of want of energy on the part of some of the members of our profession in spreading its blessings. In the report of 1820 some distinct and valuable recommendations as to the method of vaccinating were printed. The board thought it right to direct that lymph should never be employed from any vesicle in which the slightest irregularity or imperfection could be observed; nor even from a perfect vesicle after the areola had formed; that two punctures be made in each arm in order to secure at least three perfect vesicles; that one vesicle on each arm should be left unopened, and the lymph be suffered to be absorbed or desiccate. The board was earnestly desirous that more rather than fewer vesicles should be produced, was of opinion that it was especially wrong to confide in one vesicle and highly imprudent to open all. I would wish you to remember that this board was made up of the President and Censors of the Royal College of Physicians of London and Master and Governors of the Royal College of Surgeons in London, Dr. Latham's name standing at the head. In the same year, 1808, there had lately been established by Government "a Board of Health to prepare and digest rules and regulations for the most speedy and effectual mode of guarding against the introduction and spreading of infection, and for purifying any ship or house in case any contagious disorder shall manifest itself in any part of the United Kingdom, and to communicate the same to all magistrates, medical persons, and others, His Majesty's subjects, who may be desirous and may apply to be made acquainted with the same." This report was drawn up with the view of preventing the introduction of the plague or other contagious and mortal distempers. It was hoped that this board would adopt the same rules with respect to persons affected with small-pox. This Board of Health was doubtless the beginning of our present Local Government Board, which in its maturity has but little likeness to its first ancestor; for whereas at its origin the rules and regulations against the introduction and spreading of infection were at the service of those who might apply

to be made acquainted with them, all such are now made compulsory and under the control of specially educated scientific men under whom the great work of sanitary reform has so distinguished our age. The way in which cholera has been kept from our country in recent years is an object lesson which has well demonstrated the value of our present system.

In 1802 the House of Commons voted Jenner £10,000, and in 1807 £20,000 more, as a reward for his discovery; but this was not done without opposition, and much worry to Jenner. Indeed, in 1801, when the subject of vaccination came before a committee of the House of Commons appointed to receive evidence of its value, Jenner wrote to Lady Berkely, his neighbour, "that he trusted that the committee would hear enough to remove all that nonsense which has crept into the brains of some of the sceptics, and be able to trace it to its source, when it will appear to have sprung either from jealousy, as at Gloucester (near his home); from envy, as at Bristol; and from stupidity, as half the country over." In 1798, after the publication of his book, Jenner spent many months in London to demonstrate the truth of his discovery, yet during this time he was unable to prevail on one individual to submit to the operation of vaccination. Mr. Cline, the distinguished surgeon of Guy's and St. Thomas's Hospitals, did the first case in London in August, 1798, using some of the virus Jenner had given him. He, however, evidently did it with only half faith as to its specific virtue, for he used the vaccine upon a boy who had hip disease, under the theory that the counter-irritation excited by the cow-pox might prove beneficial to the disease. The vaccination, however, took well and went through its normal course, and the influence of this case and Cline's example in using the virus did much to encourage the introduction of vaccination. In 1821 Jenner still complained of the want of encouragement he received from his own people, and he always considered London to be the centre of opposition to the vaccine practice. In a letter to his friend Gardner he alluded to a paragraph from Berlin in which some high mark of distinction was made to his name by a foreign nation when no marks at all had been made by that to which he belonged. He wrote: "Not only the people you see assemble to

celebrate my name, but the Court itself through the proper officers. And why are all these attentions paid to me? For this plain reason: they see the truth of my original position that 'vaccination properly conducted (in such hands as their own, for example) is capable of banishing from their city, and I believe their empire, the small-pox—the severest scourge that ever spread its desolations among them.' The observation must not be confined to Prussia, as it will equally apply to the Continent in general. If any portion of the Continent has been more conspicuous than another in eradicating this poisonous weed it is Denmark, as we are told in a late publication that it is now (1821) eleven years since a single case of small-pox has been recorded in Copenhagen, or indeed in any part of the Danish dominions, so strictly have the edicts of the Government been enforced respecting the prohibition of small-pox inoculation and the use of the vaccine only."

But time warns me that I must bring my observations to a close, for hitherto I have drawn your attention only to Jenner's work on the cow-pox and the influence it has had upon the world in supplanting variolous inoculation and doing much towards realising Jenner's hopes and stamping out small-pox altogether. That this result may come is quite possible if human effort continues to work in the right lines, but that we have not yet reached it experience too surely records. It may, however, be said with truth that small-pox is now, thanks to vaccination, a comparatively rare, and certainly a somewhat unheeded affection; indeed, it has for some years been so lightly regarded by the public, that vaccination has neither been rightly valued nor carried out with the care which is essential to bring about its full beneficial effects. The influence of the anti-vaccinationists and the delay in the publication of the Report of the Vaccination Committee, which has been sitting seven years, have also probably had a pernicious effect upon the public, leading the ignorant and thoughtless to believe that the law of compulsory vaccination has been abolished or suspended, and that the Vaccination Committee itself is hesitating about pronouncing a definite opinion upon the value of the practice and in enforcing its general adoption. It is to be fervently hoped that the conclusions of this Committee will be clear and decided, and as there

can be no open question as to the value of vaccination in suppressing small-pox, so there ought to be no question as to the expediency and justice of making it compulsory. The object-lesson now being so painfully given at Gloucester, near Jenner's own home, ought to be taken to heart by the country generally, and strengthen the opinions of those in authority who are the custodians of the public health: for it has made clear, to all who know what vaccination has done in the past to suppress variola, that where it has been so disgracefully neglected, as at Gloucester, it has proved as fatal as of old in at least one case out of every five attacked; and that small-pox unchecked by the only available means of vaccination would soon re-assume its former power and become the same devastating and disfiguring scourge it was in the seventeenth century. For my own part I cannot do otherwise than regard Jenner—the discoverer and introducer of vaccination—as the greatest benefactor of the human race that this or any other country has produced, and believe that the magnitude of this simple act, which now seems to us so simple, has had its influence in leading the professional world to look upon Jenner himself as by no means so great a man as many others who have done less good work than he. In this opinion I am sure the world has been entirely wrong, for no one can read his life as written by Baron—though not in a very happy vein—or read the many letters of his which are now in the Hunter-Baillie Collection, and not feel that Jenner possessed the true Hunterian characteristics; that as an observer he was quick, deep, and accurate; as a worker, untiring and zealous; as an experimenter, careful and precise; and as a thinker of the highest and clearest kind. Cautious almost to a fault, he, like Hunter, postponed the publication of his thoughts and discoveries until there was no room for doubt as to their truth, so that in 1823, a few days before his death and twenty-five years after he had given his great discovery to the world, he could write: "My opinion of vaccination is precisely as it was when I first promulgated the discovery. It is not in the least strengthened by any event that has happened, for it could gain no strength. It is not in the least weakened, for if the failures which have been reported had not happened, the truth of my assertions respecting those coincidences which occasioned them would not

have been made out." And now, nearly a century later, we, his successors, can endorse these views, for no flaw has yet been found in Jenner's discovery, or in his recognition of the value of re-vaccination. I could write much in support of my opinion of Jenner's general character, but time forbids, and I cannot do better in closing this address than quote some words from an autobiography of his intimate friend, Mr. Gardner, commenced about 1810, this gentleman having been a man of literary tastes living at Frampton, near Gloucester. "In the year 1780," wrote Gardner, "I fortunately became acquainted with that luminary in philosophy and in the art of medicine, Dr. Edward Jenner, since the celebrated discoverer of the vaccine inoculation. I was so much flattered by him, that I ranked amongst the first friends of his early youth. I reflect upon the hours, the days, the weeks, the months, and the years which I spent in his society as the happiest in my life. How often have I dwelt with silent attention upon his profound remarks upon various subjects of natural philosophy, particularly those of a physiological kind, and how frequently have I witnessed his skill displayed in the various parts of his profession. Honoured with this gentleman's friendship I have passed more than thirty years of my life and intercourse equally instructive and delightful. No man, I should suppose, has known Dr. Jenner more than myself, and to know him is to know everything that is excellent in human nature. His skill in his own profession has long been acknowledged, and has been by the learned world justly appreciated. The genius of Jenner was formed by nature for higher pursuits than the medical art. He was the poet, 'poeta nascitur'; that gift divine so rarely bestowed upon man was given to him, and though his unremitting ardour in the pursuit of natural history and his attention to the duties of his profession prevented him from the frequent exercise of his talent for poetry, yet the fire, in some measure extinguished but not smothered, sometimes burst out. He was peculiarly happy in epigram. Dr. Jenner, so eminent as he is by his natural and acquired endowments, by a sort of singular composition of character has not lost any of those soft amenities which polish the surface of human life. In him was always perceived the gentleman of polite and elegant manners which gilded over the profundity of his philosophic

remarks. Nothing harsh was ever found in Jenner, and were I inclined to censure any part of his conduct it would be his too ready acquiescence with the sentiments of some of his associates, however absurd; but this was the acquiescence of philanthropy. As the discoverer of the vaccine inoculation we behold him for a series of years unremittingly pursuing the grand object which he had in view, undismayed by prejudice and only smiling at the assaults of ignorance. Shielded by his good sense from the shafts of envy, he consigned to posterity (that certain judge of merit in every branch of science) the eulogium of his genius and his labours. With this distinguished character I have in the social intercourse of uninterrupted friendship spent more than thirty years of my life; in his company I have experienced some of the happiest days of my existence. He was my guide, my counsellor, and my friend. Language can go no further." Nor, may I add, is any addition wanted, for such testimony as I have read from a lifelong friend of Jenner, and which was not written for publication, bears the stamp of truth upon it. It remains for us, therefore, to recognise the claims of Jenner upon the admiration and gratitude of humanity, and as Englishmen to be proud of the distinction which his immortal discovery has conferred upon us. Let us keep in mind the opinion of Professor Virchow, speaking as an ethnologist in Berlin on May 14, 1896, that "all the peoples that had not been reached by vaccination, or that had not accepted it, had disappeared from the face of the earth destroyed by the small-pox"; with that of M. Hervieux, who on May 12, 1896, in an eloquent address upon Jenner, delivered before the Académie de Médecine in Paris, said:—"Resting on the triple base of animal vaccine, re-vaccination and compulsion, this power is sufficient to defy all the assaults of small-pox, and may be proclaimed to be the grandest conquest of medical science." But our gratitude and pride must not stop here, for Jenner, by his methods of investigation, pointed out to scientific men a new direction in which future triumphs were to be won, and which, in the hands of our best scientists, already promises to be productive of untold value. The results of their work, and consequently of Jenner's work, cannot yet be fully estimated, but the light which has been thrown by Pasteur and his co-workers—when working in Jenner's line—upon the

causes of specific diseases and the means of fighting them has encouraged the most hopeful of us to expect that many, if not all, of the contagious diseases with which we are now afflicted may in the near future be as much under human control as small-pox is now known to be, and that the development of Pasteur's work in the direction which has been so skilfully worked out by Sir J. Lister may in the future be productive of as much good as it has already proved to have been in the past. Let us, then, cherish these memories and encourage such labours, and be careful whilst we do so not to lose anything of their value by carelessness or indifference.

THE ULNAR SYMPTOM IN THE INSANE.—In 1894 Biernacki called attention to analgesia of the trunk of the ulnar as a symptom characteristic of locomotor ataxia. Shortly afterward Cramer concluded that among the insane, with few exceptions, this symptom was limited to the subjects of general paralysis. The mode of testing is by pressure on the nerve in the intercondyloid notch at the elbow, and noting the effects as to pain or parasthesia in the distribution of the nerve. Goebel finds a difference between men and women; 87 per cent. of the male cases of general paralysis examined by him presented a double-sided ulnar analgesia. The symptom is not at all constant in females, and so with them cannot be utilized as a diagnostic aid. But among men suspected of general paralysis the author regards it as a pathognomonic sign of great value. It may also be utilized for the detection of malingering. As ulnar analgesia is also frequently found in epileptics, its presence is useful for a diagnosis between the convulsions of epilepsy and those of hysteria. The symptom, is not, however, limited to general paralysis and epilepsy; for it was found in 43 per cent. of the asylum inmates, exclusive of the general paralytics examined by Goebel.—GOEBEL (*Neurol. Centlbt.*, 1895, No. 16, p. 718).

EARLY DIAGNOSIS OF DIABETES.—Noorden claims to have discovered a new means of diagnosing diabetes in its very earliest stages, or even a hereditary tendency thereto. He gives the patient 100 grains of grape-sugar, which in the normal subject has no effect, but in the incipient diabetic produces glycosuria. If this method proves correct it will be most useful in gaining for the diabetic the earliest possible treatment.—*N. Y. Med. Record.*

Report of Proceedings.

CLINICAL EVENING.

A. SYMONS ECCLES, M.B., President, in the Chair.

Friday, June 5, 1896.

CASES.

Rodent Ulcer excised, and Skin Grafting employed.

Dr. CLEMOW: This patient is 58 years of age. About a year ago he first noticed a "pimple," which spread until it involved an area of skin rather larger than a sixpenny piece on the upper lip close to the left ala nasi. I excised the disease on April 28, and covered the raw surface with a graft after Thiersch's method from the thigh. Healing rapidly ensued. Microscopical examination of the growth proved it to be a rodent ulcer.

Mr. SWINFORD EDWARDS: I shall be interested to hear from Dr. Clemow further details of the method he employed in grafting, and also the results of the microscopical examination, especially in relation to the differentiation between rodent ulcer and epithelioma.

Mr. BIDWELL: I think that there is no doubt that the treatment adopted by Dr. Clemow is the only correct one for rodent ulcer. I have operated on six cases in this way, and I have had the opportunity of seeing three of these cases over a year after the operations, and there has been no recurrence in either case. After these results I think that the old name of *noli me tangere* ought not any longer to be applied to rodent ulcer, the only indication being to remove the growth freely, and about one quarter of an inch of healthy skin all round. The whole thickness of the skin down to the subcutaneous fat should be removed. In many cases of rodent ulcer of the face the wound can be closed by sliding up a flap of skin, especially when a new ala nasi is to be formed.

Dr. CLEMOW: The section was made wide of the margin of the growth, the whole thickness of the skin having been cut through and the base scraped. The tumour was reported as a typical rodent ulcer by the Clinical Research Association.

Papillomatous Patches about the Anus.

Mr. EDWARDS: This case is a curious affection of the integument about the anus in a male patient, the subject of acute phthisis. It consists of two distinct patches or areas of papillomatous tissue—one, the smaller, measuring about 1 in. by 1½ in., situate behind the anus and running into it, and having in its margin the external orifice of a fistula. The other and larger patch, measuring about 3 in. by 2 in., is placed on the right side, in front of and altogether away from the anus. The margin of each is of a darker colour than the surrounding skin, not raised, and of an eczematous character. Towards the centre the lesion becomes papillomatous. Neither patch has a hard base. Is this tuberculous, or of the nature of mucous tubercles—due to discharge of moisture from the fistula?

Chronic Ulceration of the Lip.

The second case which I have here is one of chronic ulceration and induration of the lip in a man 61 years of age. Twenty years ago he first suffered from a similar attack; recovery took place, but about ten years ago he had a second attack. The history of the present condition is one of two months' duration. The diagnosis lies between epithelioma, syphilis or lupus, or simple ulceration due to (*a*) sycosis, (*b*) impetigo.

Mr. PATEN: I would venture to suggest that the warty growth in Mr. Edwards' case is due to the irritation from the anal discharge.

Mr. L. A. BIDWELL: The case of disease of the lip recalls to my mind a case described by Dr. Allan Jamieson in the *British Medical Journal*, accompanied by a coloured plate. This condition was described as a "peculiar affection of the red portion of the lips," and a portion was excised, and microscopical examination suggested that the growth was epitheliomatous. The case, however, improved after local treatment with lactic acid, so I would suggest that some simple local treatment should be tried before resorting to operative treatment.

Dr. ABRAHAM: I have seen Mr. Edwards' case of growth around the anus, and it reminds me of a case described by Dr. Wickham of Paris, of persistent eczema leading on to carcinoma, *i.e.*, a condition akin to "Paget's Disease of the Nipple." The condition of the lip appears to be epitheliomatous.

Mr. EDWARDS: Taking a general survey of my two cases I am inclined to regard the first as one of condylomata, the second as epithelioma.

Rodent Ulcer of Left Cheek and also of Nose, treated by Excision and Skin Transplanting.

Mr. KEETLEY: The patient, who was sent here by Dr. Abraham, had lost the left ala nasi and the greater part of the cheek. After excision Thiersch's grafts did not suffice to prevent ectropion; an arm flap was therefore affixed to the cheek. Patient had since pointed out that the disease also affects the gum beneath the upper lip. In order to deal with this thoroughly I intend to divide the lip, and reunite it after excising the disease.

Dr. ABRAHAM: This man was brought to me at the Blackfriars Hospital for an opinion as to the desirability of surgical interference. It was remarkable that he should have allowed the disease to extend for so many years without treatment. Mr. Keetley is much to be congratulated on the result obtained.

Œdema of Legs from Thrombosis.

Dr. CHARLES W. CHAPMAN: In this young woman, aged 17, three years ago, without any previous symptoms, the right leg began to swell. After an interval of one year she had severe pain in the other (left) leg, which lasted for six months; then it began to swell. Patient has not had any severe illness. She was first seen on January 14. The right leg was very much swollen and quite hard, the left enlarged to about half the extent of the right. The œdema has never been above the knees. Patient was anæmic, and had a systolic bruit at apex, with re-duplication of the second sound on the sternal side. On lying down a mid-diastolic bruit was heard to the left. The latter is now occasionally to be heard. The other signs have disappeared. Catamenia regular but scanty; never any albumen in her urine. Elastic pressure has been beneficial.

Mr. ATKINSON: Dr. Chapman's case is one of great interest to the general practitioner, since we are likely to meet with many of an allied or identical character. The œdema appears to be due to anæmia the result of early overstrain.

Dr. HUNTER: Was there any evidence of venous thrombosis?

Dr. BALL: The fact that the swelling occurred in the second leg after a prolonged interval of time appears to me to be strong evidence against anæmia being the sole etiological factor.

Dr. CHAPMAN: Though positive evidence of thrombosis did not exist, the œdema, which was of a strikingly solid nature, probably resulted from this. The patient is getting well under iron.

Linear yielding of the Skin.

Dr. CHARLES W. CHAPMAN: I was consulted by this patient, who is 15 years of age, on May 19, for pain at the region of the heart and epigastrium. On examining the chest I was struck by her size for her age. She weighs 12 stones. The skin over the shoulders and mammæ have yielded to the distension; the gluteal regions have a similar appearance. Height, 5 ft. 4½ in. The lines appeared two months ago.

Mr. ATKINSON: This case reminds me of one which I saw at St. Bartholomew's Hospital some years ago, that of a woman who weighed twenty-seven stone.

Deformity of Chest Wall produced by Bicycle Running.

Dr. WM. HUNTER: This patient is aged 20. He attended as an out-patient at the West London Hospital on May 27, 1896, complaining of pain in the chest and palpitation of about two months' duration. The patient was a bicycle runner and spent his time in teaching ladies to bicycle, running after them and holding the bicycle with his right arm.

On examination there was presented a marked deformity of the front part of the chest—a projection of right edge of sternum and adjacent costal cartilages forward, with falling in of the right ribs, and another projection of the left costal arch outwards and forwards. This deformity he had noticed for about two months.

On laying him on his back and pressing the edge of sternum backwards, the natural shape of the chest could be in great part restored, only to recur again when pressure was taken off. On imitating with the right arm the position he usually took up in running with the bicycle, the deformity became greatly exaggerated. He is about 5 ft. 4 in. in height; previous health good.

The PRESIDENT: There is some slight degree of gastroptosis in this case, which may have some significance in connection with the cardiac condition, probably arising from the continuous sustained effort necessitated by the occupation. It will be interesting to learn how the cardiac and gastric functions may be affected by rest from the toil of bicycle-running.

Mr. KEETLEY: I have been in the last few years consulted by three young women with "tumours," which proved to be really local curvatures of the rib cartilages in the front of the chest. Want of symmetry of the front wall of the chest is common; sometimes—but not always—it is only a symptom of lateral curvature of the spine. Sometimes it is hereditary, parent and child being of totally distinct occupations, but having their chests conformed or rather deformed alike. No treatment is indicated in the case before us.

Mr. McAdam Eccles: I consider the deformity due to the cycle work because of its very recent origin, its improvement on rest, and I further think that the slight lateral curvature of the spine is not sufficient to cause the marked change in the anterior part of the thorax. The angular deformity is wholly in the rib cartilages, the bone not being affected.

Mr. Atkinson: Cases in which the chest wall bulges in a manner suggestive of a tumour are fairly common. I remember one in which the floating ribs were thus affected, giving the appearance of a tumour the size of an orange. During twelve years no change had occurred in it. For Dr. Hunter's case rest alone is probably necessary.

Dr. Clemow: In estimating the causes of chest deformity, I think the pressure of the arm on the chest wall should be borne in mind. Most persons habitually sleep most frequently on one side, hence direct pressure of the arm is mainly unilateral.

Dr. Ball: The real point is whether the deformity in this case is due to the occupation. Mr. Keetley, I think, is clearly of opinion it is not, and I certainly am of opinion that we should hesitate before we accept the view that we have here a new disease from occupation.

Mr. Starling: I consider that probably in this case there is some congenital defect, aggravated by occupation.

Dr. Hunter: The correctness of the title under which I bring this case forward appears to me to be practically proved by the fact that there is no history of chest affection during infancy and there was no deformity two months ago, while ten days' rest has produced marked improvement and the slightest pressure will restore the normal shape of the chest.

Card Cases.

Dr. Phineas Abraham showed the following cases: a child thirteen months old, convalescent from whooping cough, with extensive acne, with comedones on the chest and back. The comedones had been there for several months, and had many of them become inflamed and pustular within the last five or six weeks. Although considerable improvement had set in since the treatment commenced, the induration and purple discoloration were still much marked. He showed water-colour drawings and photographs of the case.

Dr. Abraham also showed a drawing of a well-marked congenital case of lymphangioma occurring on the shoulder of a young lady aged 17. The growths were white, translucent, and vesicular, and strongly resembled a row of white currants. As they occasionally ulcerated, and interfered with the wearing of a low dress, he had removed them under local anæsthesia with a Vidat's scraper and the electro-cautery.

Dr. MORGAN DOCKRELL: I should like to know whether there was any previous treatment which could account for the comedones, it being generally accepted that comedones are due to the cornification of the horny layer blocking the sebaceous follicles.

Dr. CHAPMAN: Did the irritation of the chest influence the course of the whooping cough?

Dr. ABRAHAM: There was no connection between the comedones and the whooping cough. The child had not been under any treatment, nor had any applications been made to the chest until he was brought to the hospital fourteen days ago.

Mr. MCADAM ECCLES showed the following cases:—

Cleft of Soft Palate. Double Hare Lip.

The patient, aged 28, is the youngest but one of healthy parents. None of his brothers or sisters are deformed. He was not operated on when a child owing to being a weakly infant.

The cleft of the lip is on both sides, but not complete; the inter-maxillary bone is not carried forward, but the prolabium is attached to the columna. The soft palate is completely cleft, the halves of the uvula lying on either side.

I have deferred operation as the patient is suffering from secondary syphilis. There would be some difficulty in closing the left hare lip.

Osteo-Arthritis.

Male patient, aged 45. First noticed pain about the metacarpo-phalangeal joints of both hands. There is marked ulnar deflection at these joints, with some flexion, fusiform swellings of first inter-phalangeal joints.

First metatarso-phalangeal joints also affected like the daughter's. Urine normal.

I have here also the daughter of the man just shown. This little girl, aged 12, first noticed pain in the metatarso-phalangeal joint of the left great toe. About one month later she noticed some swelling, and this has somewhat increased since. The child has worn boots which do not fit very well. There is a tender painful swelling in the region of the joint; the bone is nodular.

Rheumatoid Arthritis.

In this woman, aged 44, the right elbow joint began to swell about three months ago, with pain and marked crepitation.

Mr. BIDWELL: There is no doubt that in many puerile cases supposed to be due to flat foot or ill-fitting boots, osteo-arthritis is the real underlying condition. In some of these,

x rays have shown new bone thrown out round the joint. I have seen instances of osteo-arthritis at two years of age.

Dr. POTTER: I notice in the male patient, tophi in his ears, and I learn that he has had gout in the great toe, so that I venture to suggest that this may be an associated condition.

Mr. PATEN: There have been many cases of infantile osteo-arthritis noticed at St. Bartholomew's. With regard to the treatment, iodide of iron appears to be most successful.

Mr. MCADAM ECCLES: I am familiar with the infantile cases referred to by other speakers, but I prefer to speak of the condition as sub-acute rheumatoid arthritis. The patient shown has acute attacks, but these are characteristic of the malady. Iodide of iron appears to be of most use; the patient is doing well under this drug.

Dr. JOBSON HORNE showed a case of aneurism of the foot, which is published in full on page 208 in the July number.

The following discussion ensued:—

Mr. MCADAM ECCLES: The case appears to be one of traumatic aneurism of the tarsal branch of the dorsalis pedis artery. Pressure on the anterior tibial artery stops the pulsation in the sac. I should advise ligation of this vessel.

Mr. BIDWELL: I cannot agree with the treatment just suggested. I consider it would be better to cut down and open the sac, and tie above and below.

The Annual General Meeting—July 19, 1896.

Dr. H. SUTHERLAND, Vice-President, in the Chair.

The SECRETARY read a letter from the President, Dr. Symons Eccles, regretting his inability to be present through illness.

Mr. R. LLOYD and Mr. ANDREWS having been appointed scrutineers, a ballot was taken for the election of officers of the Society for the ensuing session, and resulted in the unanimous election of Mr. Bruce Clarke as President, and of all the other gentlemen proposed by the Council (*vide* p. v.).

The Report of the Council (*vide* p. i.) was adopted on the proposition of Mr. Lawrance, seconded by Mr. Percy Dunn.

The balance-sheet presented by the Treasurer (*vide* p. iv.) was adopted on the proposition of Dr. Potter, seconded by Mr. McAdam Eccles.

The Librarian's report, presented by Mr. Keetley, was adopted on the proposition of Mr. Lawrance, seconded by Mr. Andrews.

In the absence of the President, a portion only of his valedictory address was read by the Secretary. It was decided that the whole address should be published in the JOURNAL (*vide* p. 221).

Votes of Thanks.

Mr. Keetley: I have much pleasure in proposing a vote of thanks to our President for the thorough manner in which he has done the duties of his office. No one has ever filled the chair more efficiently, or shown more zeal in advancing the interests of the Society. It was to his initiative that we owed our quarterly Journal, and we fairly regard this year as, on the whole, one of the most successful in our annals. His hospitality to his Council and officers has been such that if we are not any the worse for it, we perhaps owe our immunity to the way in which he has kept us all hard at work in the interests of the Society. Those of us who know him intimately are aware that he has had to bear up courageously against grievous private sorrows. We therefore admire and esteem the more his successful tenure of the presidential chair.

The vote was cordially seconded by Dr. Abraham in appropriate terms, and was carried by acclamation. Mr. Bidwell was instructed to carry the thanks of the Society to Dr. Eccles.

The following votes of thanks were also passed:—

To the Treasurer, proposed by Mr. R. Lloyd, seconded by Mr. McAdam Eccles, and responded to by Mr. T. Gunton Alderton.

To the Auditors, proposed by Dr. F. McCann, seconded by Dr. Shuttleworth, and responded to by Mr. Mallard.

To the Secretaries, proposed by Dr. H. Sutherland, seconded by Dr. Lamb, and responded to by Mr. Bidwell.

To the Editor of the Journal, proposed by Dr. Sutherland, seconded by Dr. Potter, and responded to by Mr. Percy Dunn.

To Dr. Sutherland, for presiding, proposed by Mr. Lawrance and seconded by Mr. McAdam Eccles.

Treatment of Chancre.—Von Herff, of Halle, treats soft chancre by thoroughly disinfecting with a strong solution of bichloride of mercury; he then applies pure carbolic acid. If necessary, cocaine may be first applied to lessen pain. Moist compresses of permanganate of potash, sitz baths, and hot permanganate of potash douches are used for four or five days, after which any ulcers that are not already healing may be touched the second time with carbolic acid in the same manner. This method has the advantage that it generally prevents the suppuration of the glandular swellings.—*Modern Medicine.*

The Mirror of Practice.

CASES OF CHEESY CONCRETIONS IN THE TONSILS.

By James B. Ball, M.D.
Physician to the Throat Department, West London Hospital.

Case 1.—A clergyman, aged 36, consulted me for the following symptoms:—He complained that for some years he had suffered every few months from slight soreness of the throat, and on looking at his throat on these occasions he noticed that there were whitish specks or patches on the tonsils. These attacks did not make him feel ill, or at most he experienced very slight malaise, and after a few days, or a week or so, the throat discomforts or the white specks disappeared. He also stated that he often noticed a speck or two on the tonsils, without feeling any discomfort whatever. Another symptom, of which he particularly complained, was an unpleasant smell which he frequently discerned from his breath, and at times an unpleasant taste, which he fancied proceeded from his throat, but which had always been attributed to his stomach by doctors whom he had consulted. On examination of the throat, the tonsils were noticed to be slightly hypertrophied, and there were a few granules on the posterior wall of the pharynx. On the right tonsil, in the orifice of one of the lacunæ, was a small white cheesy plug, which was easily removed with a probe. I suspected in this case that it would be found that the lacunæ of the tonsils were the seat of retained cheesy material. I accordingly proceeded, after the application of a 10 per cent. solution of cocaine, to slit up the lacunæ as far as possible. In doing this I turned out, as I expected, numerous whitish cheesy plugs from the lacunæ. I repeated this on two subsequent sittings, until all the lacunæ were thoroughly opened up. In addition to the cheesy plugs, I turned out from the left tonsil a small calcareous nodule, almost the size of half a small pea. Since this treatment, now about a year ago, the patient has been quite free from all the troubles of which he previously had complained.

Case 2. — A schoolboy, aged 15, had been subject to frequent sore throats for three or four years. The sore throats lasted a few days, but did not make him actually ill. Sometimes he stopped away from school, sometimes not. The throat was said to look inflamed, and there were always white specks on the tonsils during the attacks. When I saw

him he was suffering from one of these attacks. The fauces were a little congested, and the tonsils slightly hypertrophied. At the orifices of some of the lacunæ in each tonsil were whitish cheesy plugs. The temperature was normal. I treated this case by freely opening up the lacunæ at three separate sittings, and on each occasion turned out a quantity of cheesy material, more especially from a crypt in the upper part of the right tonsil, and the pocket between the right tonsil and the anterior pillar. Since this treatment, now about eighteen months ago, he has been quite free from sore throats.

CASE 3.—A lady, aged 30, came to me on account of a pain in the throat, from which she had suffered for about fifteen months. She referred the pain to the right side of the throat, and pointed to a spot below the angle of the jaw, corresponding to the right tonsil. The pain was of a pricking character, not severe nor constant, and it sometimes went away altogether for a few days. There never was any actual pain in swallowing. She had suffered from two attacks of acute tonsillitis during the previous two years, but being in the habit of frequently looking at her throat, she had often observed a white speck on one or other tonsil. She stated that her breath was offensive at times. For the last few months she had suffered from a troublesome tickling cough when she lay down at night. The tonsils were only very slightly enlarged. I divided up the crypts of the tonsils on this and a subsequent occasion a week later, but found only a very few minute cheesy nodules in them. A few weeks later when I saw her she still complained as much as ever of the pricking pain in the right side of the throat. On careful examination I found a pocket between the right tonsil and the adherent anterior pillar. On opening this, by dividing the adhesion between the tonsil and the faucial pillar, a rather firm gritty mass, about the size of a small pea, was evacuated. After this she lost the pricking pain, and was quite free from it when I heard from her some months later.

Remarks.—The collection of a cheesy mass in a tonsil crypt is not an uncommon occurrence, and may give rise to no inconvenience. If, however, many crypts are implicated, if large concretions form, or if the process is a chronic one, the concretions re-forming again and again after discharge, the patients are liable to suffer from various symptoms, for which they ultimately seek advice. A disagreeable odour from the breath, or an unpleasant taste is at times experienced by the patient. Sometimes the little cheesy masses are expectorated and attract the patient's notice. Pain or soreness, varied in degree and character, is not an uncommon symptom, often

one-sided and referred to the region of the tonsil; or a sensation of a foreign body in the throat may be complained of. Slight inflammatory exacerbations are not infrequent, during which the symptoms are more marked and numerous cheesy plugs appear in the lacunar orifices. These patients are also predisposed to attacks of acute tonsillitis. The condition here described has not inappropriately been termed chronic lacunar tonsillitis. It is mostly met with in young adults. Many of these cases are not recognised, and the symptoms referred to other causes which have no part in their production. The concretions are mainly composed of desquamated epithelium more or less altered, and not infrequently they contain gritty particles from deposition of calcareous matter, or a calcareous mass of some size may be present. If the tonsils are large, excision is the most speedy cure, although I have seen the disease persist in the crypt of the stump of an excised tonsil. In the majority of cases the tonsils are not much enlarged. The most rational and effective treatment is to open up the crypts by free division of the crypt walls. For this purpose I employ a small hook-shaped knife fixed at right angles to the handle, which Messrs. Mayer & Meltzer, of Great Portland Street, have made for me. The point is inserted into a cryptic orifice, and is brought out at a neighbouring orifice, or if necessary, it is forced through the tissue. The intervening tonsil tissue is then cut through, and this can be usually effected by a simple rotation of the handle of the instrument. In this way several crypts can be opened up at a sitting, and any concretions that may be present are evacuated. At the termination of each sitting I apply a strong solution of iodine (iodine 90 grains, iodide of potassium 90 grains, water 1 ounce). It diminishes the tendency of the cut surfaces to unite, and in any case is a good antiseptic application.

A CASE OF CÆSAREAN SECTION.

By J. A. Mansell Moullin, M.B., M.R.C.P.

Physician for Diseases of Women, West London Hospital; Physician to the Soho Hospital for Women.

Cases requiring Cæsarean section are not of very frequent occurrence. The notes of the following case may therefore be worth recording:—

F. D., age 22, a primipara, poorly nourished, and presenting well-marked symptoms of rickets and spinal curvature, was sent into the West London Hospital by Mr. E. W. Lewis early on the morning of July 4, 1896. Labour had been

going on for some hours without progress. Recognising the difficulties of the case and the impossibility of delivery with the forceps, Mr. Lewis sent her to the hospital with a view to abdominal section. His promptitude undoubtedly contributed largely to the ultimate success of the case.

On admission, the amniotic fluid had drained away, and the uterus was firmly contracted on the child. The head could be felt high up, jammed between the projecting promontory of the sacrum and the os pubis. It could neither advance nor recede on pressure. It was evident that the conjugate diameter was much diminished by the rachitic deformity of the pelvis.

In the meantime Mr. Knight (then house physician) had everything prepared for operation, and gave me his assistance. The patient, having been taken to the operating theatre, was placed under an anæsthetic, and a free incision made through the abdominal wall in the middle line, commencing one inch above and to the left of umbilicus and extending to within three inches of the pubes. The uterine wall was then divided by a straight incision to the extent of four inches, exposing the membranes at once. Very little hæmorrhage took place. One large sinus was divided, but the bleeding was easily controlled by digital pressure. The hand was quickly introduced into the uterus, the child grasped and extruded by the breech. It was of small size and dead. The extrusion was easily accomplished. The uterus, now much diminished in size, was brought out of the abdomen at the same time and protected by my assistant with hot sponges. The placenta and membranes came away readily without hæmorrhage, and the uterus contracted firmly and well. No elastic ligature was used. Six or seven deep sutures of chromic catgut were introduced through the uterine wall commencing at the upper end of the incision and avoiding the decidua. The peritoneal covering, loosely attached by cellular tissue, was united by interrupted sutures of fine silk. The abdominal wound was then closed in the usual way with sutures of silkworm gut and dressed with cyanide gauze moistened with 1 in 40 carbolic solution.

The operation was completed and the patient placed in bed within half an hour.

The patient made an excellent recovery.

July 5.—The note says she passed a fairly good night, sleeping well at intervals. The temperature at 10 p.m. was 99·8°; this morning it is normal again. Pulse 132, fair volume. Nutrient enemata every two hours during the day; discontinued at night.

July 8.—Slight distension of abdomen. Patient had free action of bowels after rectal tube was passed, with much

relief. Pulse 100. Lochia very slight, of a pale pinkish colour. Douched night and morning with Condy's fluid.

July 10.—Condition satisfactory up to now. Temperature, 97°; pulse, 150. Some pain in epigastrium and increased distension, but feels fairly well except for the pain.

July 12.—Sick three times yesterday. General condition better. Pulse, 120. Bowels open with enema. Distension less. Every alternate suture removed.

July 14.—Distension gone. Remaining sutures removed. Convalescent.

On examination the real conjugate diameter of the pelvis, estimated by the finger, was found not to exceed two inches.

Remarks.—On the question whether it would have been better to perform craniotomy or Cæsarean section in the present instance I think there cannot be two opinions. With plenty of skilled assistance at hand, the expeditious proceeding of abdominal section has obvious advantages over craniotomy with its many unforeseen difficulties and subsequent complications.

It is extremely difficult to arrive at any conclusion as to the comparative merits of the two proceedings. Statistics are valueless. Cæsarean section, until recently, has seldom been performed in this country. It has always been regarded as a last resource, after all other means have failed. It is not surprising that the results of an operation undertaken under such circumstances should be disastrous. Recovery at one time was almost unknown.

The great advance, however, made in surgery has changed all this; and the tendency undoubtedly is for the operation to become more and more one of election rather than of necessity.

In the hands of operators who have had a large experience very good results have been obtained. Leopold, in Germany, has reported 50 cases, and Cameron, in Glasgow, 18 cases, with a mortality of 8 to 9 per cent. Various operators in London have still more recently reported numerous successful cases. There are not, however, a sufficient number of contracted pelves to necessitate a very frequent resort to the operation or to give any one man a wide experience. The operation presents no great difficulties to one accustomed to abdominal surgery, and it is highly probable that in a series of cases performed sufficiently early, before the patient is exhausted by protracted labour, or otherwise injured by attempts to extract, the mortality might be reduced to something very small indeed.

Craniotomy I have always regarded as a very serious operation. The inherent difficulties of the proceeding are often very great. Moreover, it has two obvious disadvantages.

In the first place the child is necessarily destroyed. In the second, the mother is often permanently injured by laceration and pelvic inflammation which follow the operation. Too little has been made of this latter point. The operator is wont to be satisfied if the patient lives. Anyone accustomed to gynæcological practice must be well acquainted with the frequency with which chronic pelvic mischief follows a difficult and instrumental labour. Craniotomy, moreover, is not without a considerable maternal mortality, variously estimated by different authorities at from 6 to 20 per cent.

It must not be supposed, however, that craniotomy can be altogether abolished. So much depends upon the assistance available; and while at a London hospital or anywhere else where every antiseptic precaution is thoroughly carried out Cæsarean section must certainly be the operation of election; yet when this is not the case, and the surrounding circumstances are unsatisfactory, the obstetrician may consider he is doing the best for his patient by removing the child *per vias naturales*, if there is any possibility of so doing.

A CASE OF ACUTE GLAUCOMA, SIX YEARS AND A HALF AFTER TREATMENT BY IRIDECTOMY.

By Percy Dunn, F.R.C.S.

Assistant Ophthalmic Surgeon, West London Hospital.

K. M., a woman, aged 54, was led into my out-patient room at the West London Hospital, on December 9, 1890. Three years previously she had been an in-patient, under the care of my colleague, Mr. Vernon, for some affection of her right eye, for which the organ had been enucleated. About seven days before coming to the hospital her left eye became painful and "inflamed." She consulted a medical man who ordered her some drops, and blistered her left temple, but the pain and loss of vision increased. At the time of my seeing her she could barely distinguish fingers held at a distance of 5 inches. The globe was deeply injected, the pupil widely dilated and immovable, the tension + 2, the cornea steamy, the anterior chamber was shallow and there was acute ciliary pain—in short, the cardinal signs were present of acute glaucoma. Within an hour she was placed under the influence of chloroform and I performed a large iridectomy upwards, the section being made with a Graefe's knife through the sclero-corneal junction. The following is the brief record of the subsequent progress of the case, taken from the house-surgeon's notes.

December 10.—Eye dressed and looking well. No prolapse of iris. Patient has had no pain since the operation.

December 15.—Has been getting up, and is doing very well. No pain. Can see better.

December 23.—Has been improving in every way; can distinguish persons across the ward.

December 24.—Discharged. To attend as an out-patient. Thus the progress of the case may be said to have been entirely uneventful, save for the improvement in vision which quickly began. Unfortunately, I have not been able to lay my hands upon the notes of the vision taken after the operation, when she attended at the hospital as an out-patient; but in March last I was much interested to see her walk into my out-patient room again, after the lapse of about six years and a half. The history that she gave was that her eye had kept perfectly well during this period, but the vision had not been so good of late. On examination the pupil and lens were clear, there was no increase of tension, and the eye was quite quiet. On testing the vision, I found that she was highly myopic. With — 12 D. she was able to read $\frac{6}{24}$, but beyond that there was no improvement. Without any lens she could read J. 1 at about $3\frac{1}{2}$ inches. She was ordered —12 for distance for the left eye, and a plain glass to fill the right side of the spectacle frame. After seeing her twice or thrice more—the last time she was wearing her glasses, with which she expressed great satisfaction—her attendance ceased.

The case was interesting for the following reasons:—The affected eye was the only one which the patient had; she was practically blind when she came under treatment, and in view of the fact that the glaucomatous attack had lasted seven days, the chances were against there being much recovery of vision after iridectomy. Despite, however, the interval which had elapsed before operative treatment was undertaken, the patient recovered a large amount of her sight, and has for the past six years and a half been able to go about almost as well as she did before the attack supervened. In this woman, as the history of glaucomatous cases often reveals, the onset of the symptoms were traceable to mental shock. The husband of the patient suddenly died, and it was soon afterwards that she began to complain of her eye. In this connection I may mention the following curious case:—A woman came to the hospital suffering from double glaucoma. In one eye, the right, the sight had been absolutely lost for some weeks; in the left, fingers could be counted at about three feet. The patient was a cook, and one day her master, who was a violent man, suddenly burst into the kitchen and forcibly upbraided her for failing to cook his steak properly. She was very

frightened, and shortly afterwards the right eye became inflamed and painful, and the vision began to decline. Subsequently similar symptoms developed in the other. I performed a sclerotomy on the right eye, and a large iridectomy, upwards, on the left. She regained some useful vision in the latter, so much so, that for a time she was able to continue her occupation.

Reviews and Notices of Books.

PAGET ON THE SURGERY OF THE CHEST.[1]

We feel compelled to return our thanks to Mr. Paget for a valuable book. Concerning his merit as an indefatigable collector of material there can be no dispute. This faculty can be more appreciated when it is realised that in a book of 460 pages there are detailed accounts of over 280 cases, inclusive of quite a number of quotations from well-known British and foreign authorities, upon the surgery of the regions concerned. A work replete with cases and quotations commands our respect as to the matter rather than the manner. We would have liked less modesty and more egotism—a little less of the "would" and more of the author, together with more original and suggestive material. It is not suggestive enough for Mr. Paget to ask us a difficult question, and leave it unanswered thus: "Can we hope to save life by operating for laceration of the lungs in simple fracture of the ribs?" This is equivalent to opening the door of a darkened room and pushing us into it without a light. However, the author states that his object is not to put before the profession an original treatise, but to give us a compendium of the present state of our knowledge of the surgery of the chest. This, then, must be the field and scope of our review.

Part I. opens with a chapter upon surgical landmarks and congenital malformations, in which it is stated "Deformities of the chest do not concern us here," and attention is drawn to three cases of "a trivial deformity of the chest. . . . a protrusion of the lower costal cartilages, on the left side, in women." We must assume that lateral curvature of the spine was carefully excluded in these three cases, for it is

[1] "The Surgery of the Chest," with illustrations. By Stephen Paget, F.R.C.S., Surgeon to the West London Hospital and the Metropolitan Hospital. Bristol: John Wright & Co. London: Simkin & Co., Limited, 1896.

quite common to notice protrusion of this region of the thoracic wall under these circumstances. We also presume that rickets could not have been the cause, for in this disease the presence of the heart prevents the softened bones from being pressed inwards.

Generally speaking, in the whole of Part I. the exposition is discursive; moreover, the survey of fractures and dislocations lacks classification. Hence, from a teaching standpoint, the author's remarks will be more useful to the learned than to the unlearned. The practice of strapping a chest for fractured ribs is deprecated; but it is more than doubtful whether a bandage only can give the necessary support to a chest in this condition; for a broad boracic lint bandage first applied to the chest undeniably protects the patient from all the disagreeable effects of strapping without diminishing the efficacy of the method.

Part II. occupies nearly three-quarters of the volume, and is by far the more important and instructive. Rickets, lateral curvature, osteo-malacia, osteitis deformans, and all the more constitutional diseases of the thoracic wall are apparently intentionally omitted from discussion; but empyema is most thoroughly and thoughtfully portrayed in the longest article in the book. The treatment of empyema is throughout sound and orthodox. The author believes that, generally speaking, an anæsthetic is free from special risk, and we agree to this general statement; but there is a class of cases in which we think an anæsthetic should only be given after a preliminary aspiration without one. The following case illustrates our meaning: A young girl had been suffering for some months from empyema of the left side. The pleura had become full, the chest-wall bulged, the heart was displaced, and the opposite lung compressed. The patient was skilfully chloroformed, but before the rib could be resected the pulse could not be felt, and the patient ceased breathing for ever. In this kind of case it is obviously giving the patient's heart and normal lung the best opportunity for work by a preliminary removal of the great compressing force of the contained fluid. A local anæsthetic, in this case, could have been used for the aspiration, and the chloroform for the subsequent resection of the rib.

On pages 210 and 211 there are significant records, showing the mortality of empyema to be 10 or 12 per cent. of the uncomplicated cases. Surely this is a great deal higher than it ought to be. We can only hope that the mortality after operation for empyema will diminish as a more thorough knowledge of the details of antiseptic surgery increases. The question of an empyema not healing after operation is

a particularly important one, and it is treated by the author with due study and attention. We think that some of the causes of this want of success are not accorded sufficient prominence. For example, a fistula that is in communication with a tuberculous cavity will often not heal because it is itself tuberculous, and requires excising or scraping to effect a cure. By communication with an infectious source, or by the carelessness of the operator, an empyema may be one of mixed infection. In these cases it is very difficult to decide which of the organisms is doing the most harm, that is to say, whether the local and constitutional troubles are due chiefly to the staphylococci or tubercle bacilli in a doubly-infected case.

Again, although a tuberculous disease may have already recently healed, the cicatrix may be the seat of infection of quite another organism, which may lead to re-opening of the whole or part of the recent soft scar tissue. For instance, we have recently examined the contents of two or three blebs that rapidly formed upon such a healed wound. The clear serous contents contained only staphylococci, and there were no tubercle bacilli; on passing a probe at the actual situation of these blebs (and nowhere else), it disappeared up to its eye, and towards the seat of the primary tuberculous disease. In fact, the mixed infection in these cases of empyema may, and undoubtedly does, cause such results as high mortality, prolonged healing, and amyloid disease. It appears to be a fact that tuberculous disease cannot itself cause amyloid degeneration. We feel sure that upon p. 222 Mr. Paget is only using an old and not yet obsolete figure of speech when he says: "Finally, as to the conversion of any serous effusion into an empyema, we must remember that every chronic serous effusion tends to become sooner or later purulent."

For clearly, in the present day, to maintain that a serous effusion tends *per se* to suppurate is to adopt the doctrine of abio-genesis, inasmuch as it is certain that in clinical surgery no one ever meets with a case of suppuration in which the pus has not been caused by the presence of micro-organisms. We are, however, prepared to admit that serous effusions are good media for the growth of micro-organisms; but if the effusions are not in any way connected with sources of infection, or infected by careless surgery, they tend to remain sterile and non-purulent.

If there is any doubt about this point we cannot do better than refer the reader to Mr. Paget's all too short article upon bacteriology, upon page 207, and also to the many cases quoted by the author for other purposes, in which it is clearly shown that the serous effusions become purulent after inefficient

surgical interference. The concluding pages of the book are full of practical and well-arranged matter. Upon page 367 is the history of a gentleman into whose larynx a coin accidentally slipped; he was placed upon a swinging platform and was tilted head downwards and then struck on the back. The late Sir George Johnson, in one of his clinical lectures, insisted that while performing this method of treatment the patient should be *laid upon the back*, so that the base of the triangular orifice of the glottis is directed downwards, to which direction the coin will certainly gravitate. By this method it is more likely to effect its exit than if the apex of the triangle were directed downwards in a patient lying upon his stomach.

The subject of each part is introduced by a short historical note, and this forms an interesting and profitable feature, by which is shown the evolution of the present modes of treatment. The nine illustrations from the pencil of Mrs. Paget undoubtedly add completeness to the text.

RAMSAY SMITH ON ANGIO-NEUROSIS.[1]

THIS little work may be recommended as a good contribution to the literature of a difficult subject. It emanates from the pen of a man who is a clinician; but he adds to the observations made by Charcot, and by Ord and others, instead of launching new theories of his own. He records cases of local dystrophies of the skin in connection with the neuro-vascular system, and then he proceeds to discuss their various causes. The groups referred to under the cause of "emotion" and of "toxæmia" only illustrate well-known clinical facts. Climate as a causal factor is not so obvious, nor has Dr. Ramsey Smith made it much clearer. The chapter on pathology is a weak one, and it affords no noteworthy contribution to our, as yet, deficient knowledge of the action of the vaso-dilators and vaso-constrictors.

In treatment, again, some little disappointment will be experienced. The chapter is spun out by observations on the recrudescences which may occur in enteric fever after the administration of a laxative or an enema. On this subject similar observations were made some years ago by Ord and Seymour Taylor in St. Thomas's Hospital Reports. Notwithstanding these drawbacks, the work will be of no small value since it draws attention to an important subject which is at present little understood.

[1] "Angio-neurosis: being Studies in Diseases of the Vaso-motor System," by W. Ramsay Smith, M.B., C.M., B.Sc., Senior Physician to the Adelaide Hospital, South Australia. Bristol: Wright and Co.; London: Simpkin, Marshall and Co., Ltd., 1896.

THE LIBRARY OF THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Books Recently Received.

Presented by The Authors.

The History of Surgical Anæsthesia, by H. Bellamy Gardner, M.R.C.S., L.R.C.P. London: Bailliere, Tindall & Cox, 1896, pp. 31, price 1s.

On Certain Micro-organisms of Obstetrical and Gynæcological Interest, by G. Drummond Robinson, M.D., B.S.Lond. M.R.C.P. London: Adlard & Son, 1896, pp. 19.

The Sterility of Wounds, by G. L. Cheatle, F.R.C.S.

On an Apparatus for rapidly Infiltrating well-Dehydrated Tissues with Paraffin, by G. L. Cheatle, F.R.C.S. (Reprint.)

On a Rapid Method of Dehydrating Tissues before their Infiltration with Paraffin, by G. L. Cheatle, F.R.C.S. (Reprint.)

Presented by Mr. Percy Dunn.

The Inter-Colonial Medical Journal of Australasia, April and July, 1896.

Presented by The Council of the Royal College of Surgeons, England.

Harvey's Manuscript Notes (Prelectiores Anatomie Universalis). London: J. & A. Churchill, 1886.

Presented by The Publishers.

The Surgery of the Chest, by Stephen Paget, M.A.Oxon, F.R.C.S., Surgeon to the West London Hospital, and to the Metropolitan Hospital. Illustrated. Bristol: John Wright & Co.; London: Simpkin, Marshall & Co., 1896.

Angio-Neurosis, by W. Ramsay Smith, M.B., C.M., B.Sc., Senior Physician to the Adelaide Hospital, South Australia. Bristol: John Wright & Co.; London: Simpkin, Marshall & Co., 1896.

The Library and the Book Club.

In the last twelve months, *i.e.*, since the books belonging to the Society have been placed in a room accessible to the members, they have been increased in number by the addition of some hundreds of bound volumes and many pamphlets and unbound volumes of journals. These additions have been mainly due to gifts, although a few new works of reference have been purchased.

An important source of increase of the library is furnished by the exchanges established between the Journal of the Society and a large number of British and American journals, including the Clinical Journal, Therapeutic Gazette, Birmingham Medical Review, Edinburgh Medical Journal, The Practitioner, Glasgow Medical Journal, The Australasian Medical Gazette, Bristol Medico-Chirurgical Journal, Quarterly Medical Journal, Northumberland and Durham Medical Journal, Liverpool Medico-Chirurgical Journal, British Gynæcological Journal, Middlesex Hospital Reports, Journal of Pædiatrics, The New York Medical Journal.

Among the books purchased, Baldy's Gynæcology and Gould's Medical Dictionary have been greatly appreciated, and Neale's Digest, with its recently issued "Supplement," has proved very useful. Indeed, the last named work, used in connection with the various series of volumes of the Lancet and British Medical Journal, of the Transactions of the Royal Medical and Chirurgical, Pathological, Clinical and other Societies, we possess, forms one of the best works of reference possible. Anyone wishing to read up a subject or a case can usually do so with the aid of the books just named in a far more thorough, more instructive, and more interesting manner than by referring to a text book, in which all he will find about his case may possibly be merely the abstract of an abstract. With the aid of Neale's Digest he may succeed in exactly paralleling his own case, or in finding the latest and most authoritative special paper on the subject.

It is, therefore, very important that our sets of the journals and Societies' Transactions should be complete, and members who can contribute to that end are earnestly asked to do so.

The Bristol Medical Library have very kindly, through their hon. librarian, Dr. L. W. Griffiths, presented us with over 20 well-bound volumes and many unbound volumes of the British Medical Journal, of a date corresponding to those in which our library was deficient. We still require bound volumes of the British Medical Journal, of dates 1893 to 1896, and of the Lancet from 1870 to 1887, and also for 1889 and for 1895 and 1896.

Mr. Bowater J. Vernon recently presented the *hospital* with thirty volumes of Transactions of the Royal Medical and Chirurgical Society, and with a complete set of St. Bartholomew's Hospital Reports. He has also most kindly promised to send the subsequent volumes of each series as they are issued. These books are accessible to members of the Society.

The Royal College of Surgeons has presented to us a handsomely bound reprint in facsimile of a manuscript treatise on anatomy, by Harvey.

The Library Room is open on Tuesday, Wednesday and Friday afternoons.

Gifts of money as well as books are welcome, as a certain expenditure is unavoidable.

BOOK CLUB.

This has been in operation for some time and is worked in connection with "Lewis's Library." Members can obtain the newest books at very short notice through this club, and for a very moderate subscription. For particulars apply to

THE HONORARY LIBRARIAN.

POST-GRADUATE TUITION IN LONDON.

By C. B. KEETLEY.

WE attempt to give in each number of this JOURNAL a full notice of the arrangements for post-graduate study in London, up to date. Strict impartiality has been aimed at, and it is hoped that the secretaries and deans of hospitals and schools will supply us with the necessary information. The well-known "London Post-Graduate Course" is directed by a committee (President, Mr. Jonathan Hutchinson), and it combines four hospitals, viz.: the Ophthalmic in Moorfields; the Skin, Blackfriars; Bethlem; and the London Throat, Great Portland Street; with King's College Bacteriological Laboratory; the Parkes Museum of Hygiene, and the Cleveland Street Infirmary; while pathological lectures are given at the Great Northern Hospital. The next courses will commence in October. Courses can be taken out separately, and the fees are £1 1s. or £2 2s. at each institution, according to the number of lectures, &c. This does not include hospital practice, for which are charged fees extra, but moderate. The prospectus for 1896 may be obtained of Dr. Little, 32, Harley Street, W.

Charing Cross Hospital.—Weekly lectures or demonstrations are given, arranged in three courses of ten each, two courses in the winter and one in the summer. Registered medical practitioners not requiring a certificate of attendance are admitted without fee to the practice of the hospital. The next course begins on Thursday, October 15. Fee £1 1s. each course. Thursdays at 4 p.m. Beds, 180; in-patients "about 2,000." Hon. Secretary, Dr. Willcocks.

West London Hospital.—Weekly demonstrations, arranged

in three courses of ten lectures each. Wednesdays at 5 p.m. Fee £1 1s. each course. Fees for hospital practice, £2 2s. per quarter extra, or £5 5s. for year, including all lectures and demonstrations. Registered medical practitioners not requiring a certificate of attendance are admitted without fee to the practice of the hospital. Instruction in anæsthetics by the anæsthetists. Hours of visiting and operation, 2 to 5 daily. Beds 101; in-patients, 1,713. When the new wing, recently finished, is opened, the hospital will contain 173 beds. Clinical assistancies. Special departments for diseases of women, eye, ear, throat and nose, skin and for orthopædics. Hon. Secretary, Mr. Bidwell. Prospectus on application. (See advertisement.)

Royal Ophthalmic Hospital, Moorfields.—In "London Post-Graduate Course." Monday at 1 p.m., Wednesday at 8 p.m. Fee £2 2s.; fees for practice, perpetual, £5 5s.; six months, £3 3s.; only members of the "London Post-Graduate Course" may join practice for one month, for £1 1s. Clinical assistancies. Clinical work begins at 9 a.m. Operations daily 10 to 1 p.m. Ophthalmoscopic class, Monday, Tuesday, Thursday, 7.30 p.m. Beds, 100; in-patients, 2,184. Secretary, Mr. Robert J. Newstead.

Hospital for Consumption, Brompton.—Course of lectures and demonstrations. Wednesday at 4 p.m. Clinical assistancies (out-patient), attendance in each twice a week at 12 p.m. Clinical clerks (in-patient), twice a week, 10 a.m. to 12.30 p.m., and attendance afternoon of their physicians, three or six months. Fees, inclusive, £1 1s. one month; £2 2s. three months; £8 8s. perpetual. Beds, 321; in-patients, 1,774. For forms, &c., apply to Secretary, Mr. W. H. Theobald.

St. Peter's Hospital for Urinary Diseases, &c.—Clinical instruction in the wards daily. Out-patients, Monday, Tuesday, Thursday, Friday, 2 p.m.; Saturday 4 p.m.; also Monday and Wednesday 5 p.m. Consultations and operations, Wednesday and Friday, 2 p.m. Beds, 24. Free. Secretary, Mr. Irwin H. Beattie. (See advertisement.)

Hospital for Diseases of Skin, Blackfriars.—In "London Post-Graduate Course." Next term, eight lectures. Wednesday, 4 p.m. Beds, 10.

St. John's Hospital for Diseases of Skin, Leicester Square.—Clinical Demonstrations, Wednesday and Saturday at 2 p.m. Lectures, Wednesday and Saturday at 5 p.m. Fees, complete, £2 2s.; on Wednesday or Saturday, separately, £1 1s. For complete syllabus see advertisement. Beds, 25.

Throat Hospital, Golden Square.—Lectures and demonstrations "in the winter season." Fee, £2 2s. per course. Dates in medical journals. Fees for practice (including lectures), £3 3s. per quarter; £5 5s. per half year. Clinical assistancies, senior and junior. Attendance at 2.30 p.m.; Tuesday and Friday also at 6.30 p.m. Beds, 28.

London Throat Hospital, Great Portland Street, W.—Monday, 8 p.m., £1 1s.; hospital practice, one month, £1 1s.; three months, £2 2s.; perpetual, £5 5s.

The Victoria Hospital for Children.—The Medical and Surgical Staff propose giving a course of lectures upon "The Diseases of Children." The lectures will be delivered in the Board Room of the Hospital every Thursday afternoon at four o'clock, and each will be followed by a demonstration of cases. Practitioners and students of medicine are invited to attend. Syllabus to be obtained from Mr. D'Arcy Power, 26, Bloomsbury Square, W.C.

Bacteriological Laboratory, King's College.—In connection with the "London Post-Graduate Course," a course of lectures and practical work, Friday 3 to 5 p.m. Fee £3 3s. Other arrangements at this laboratory include "a complete course" daily 10 a.m. to 5 p.m. Fee £5 5s. Evening classes throughout the year, Monday 7 to 9 p.m. Fee £2 2s. Private study, one month, £5 5s.; laboratories also open for research. For prospectus and further information apply to Professor Crookshank, Director, or to Mr. Walter Smith, Secretary, King's College, Strand, W.C.

British Institute of Preventive Medicine.—Laboratories open from 10 a.m. to 6 p.m. Instruction in bacteriology, bacteriological chemistry and in practical photomicrography. Fee, full month's course, including re-agents, &c., £5 5s. Evening class each Monday at 7 p.m. Fee £2 2s. Also, in connection with "London Post-Graduate Course," every Thursday at 3.30 during summer, urinary chemistry and bacteriology, £2 2s. Open for original research. Apply to Dr. Macfadyen, 101, Great Russell Street, W.C.

Parkes Museum (of Hygiene), 74A, Margaret Street, W.—A course if sufficient entries received, £1 1s.

Central London Sick Asylum, Cleveland Street, W.—Thursday 5.30, "London Post-Graduate Course" lectures, £1 1s. (L.P.G.C.).

There are a few other special hospitals at which special courses are arranged for graduates. All which have the kindness to supply us with particulars will, in future numbers, receive a fair and careful notice.

Mr. Hutchinson gives clinical demonstrations at his museum, Park Crescent, Tuesday afternoons. Free.

All the great hospitals to which schools are attached are glad to receive visits from graduates, but the latter have necessarily, except at isolated visits, to give way to the regular students and undergraduates. The days and hours of attendance and of the principal operating days are given in the weekly journals.

The museum and library of the Royal College of Surgeons are open daily, and access is readily obtained to them by British, American and foreign graduates and diplomats; Secretary, Mr. Trimmer, Librarian, Mr. Bailey. Special permission is required to visit the museum on Friday and Saturday. Library hours 11 a.m. to 7 p.m. (to 1 p.m. on Saturdays). Museum hours 11 a.m. to 4 p.m. till February 28 (to 5 p.m., March 1 to August 21).

NOTES ON NEW PREPARATIONS.

Taka Diastase. Parke, Davis & Co.—This useful preparation has now been brought out in the form of compressed tablets, each containing 2½ grains. Since the drug has often to be carried about by the patient, it is very much more convenient to have the dose in the form of a compressed tablet than have to guess at the amount of powder to be taken. The reports of the use of taka diastase in amylaceous dyspepsia show that its merits as a remedial agent were by no means overdrawn.

A new price list has also just been issued by the same firm, and is one of the fullest ever published. It contains over 6,000 different products, together with much valuable information both pharmaceutical and therapeutic. The value of Messrs. Parke, Davis and Co.'s preparations is too well known to need any commendation from us.

Celluloid Cylinders. Messrs. Reynolds & Branson.— These cylinders are the invention of Mr. F. Reynolds, and are

meant as carriers for surgical dressings. They are about a foot long and two inches in diameter. The lid is fitted with the firm's patent air filter.

As so many surgeons now keep and carry about their antiseptic gauzes damped with carbolic acid, these cylinders will be found to be an ideal way of taking a supply of dressings in their bags. The only objection to this appliance is that it takes up rather more space than does a roll of gauze wrapped up in a piece of mackintosh, but it is certainly much more neat and handy.

The same firm have also introduced a very useful little appliance called the ENEMA VALVE STRAINER, of which we pro-

duce a drawing. It is a little woven wire cap, which fits tightly over the tail end valve of an ordinary syringe. It is well known how often this valve gets blocked by bits of fluff off the blankets, or by pieces of cotton wool, and this occurrence is quite obviated by this new strainer. Like the enema clip of this firm, it is an extremely useful invention, and one which will be much appreciated if tried.

New Soloids. Messrs. Burroughs & Wellcome.—We have received from Messrs. Burroughs & Wellcome samples of four notable additions to their list of soloids of compressed drugs. The distinctive cone shape of the soloid makes it practically impossible to confuse it with the convex tabloid, and so there is no danger of these poisonous drugs being taken internally by mistake. The samples which we have received are: zinc chloride, 1 grain; silver nitrate, 1 grain; and potassium permanganate, 5 grains. All of these substances are of such widespread utility that a quick and certain means of making solutions of them is a great boon.

PRESERVATION OF THE PERINÆUM.—Dr. Oliver, before the Ontario Medical Association, June, 1896, said that his method, when the perinæum was rigid, was to introduce two fingers of the right hand into the vagina, and with each pain stretch the perinæum in advance of the head. When full expansion is complete two fingers are introduced behind the occiput, and this part of the head is brought well down under the pubic arch. This, he claimed, should be a routine practice. He also advocated the method of expelling the head in the interval between pains by means of the thumb or finger in the rectum.

NOTES AND NEWS.

WITH this number we complete the first volume of our JOURNAL, and the occasion seems to be a propitious one upon which to say a few words respecting our new venture. It will doubtless be a source of gratification to the members to learn that the policy of the Society, albeit, perhaps at the time verging upon temerity, in founding a Journal has nevertheless been quite justified by the results. Moreover, the favour with which the JOURNAL has been received is not only a good augury of its future prosperity, but is clear evidence that the Society has embarked upon an enterprise from which, as time progresses, considerable advantage is destined to be derived. In proof, thereof, one instance may be cited. A member who has removed from London into the country was a short time ago applied to for his subscription. In forwarding the necessary amount he intimated that it had been his intention to resign his membership. But on further consideration he had decided not to do so, inasmuch as he had found that the JOURNAL was of use to him, and that he was desirous of continuing to receive it.

BUT a still further proof of the interest felt in the Society's new venture has just come under our notice. A late member of the Council, who has been closely identified with the Society from its foundation, informed us the other day that he had had a dream about the JOURNAL. Leaving out the picturesque details with which pleasant dreams are usually embellished, he stated that he had dreamt that a deluge of advertisements had descended upon us, threatening at once to cause the JOURNAL to throw off its present infantile aspect, and to pass into a condition which was decidedly suggestive of maternity. In order to prevent this precocious development certain measures had to be taken—that is to say, abandoning the metaphor, the clamorous claims of numerous advertisers desirous of appearing in our pages could not be satisfied, and, according to the dream, many advertisements, in consequence of the exigencies of space, were refused. But dreams are always unsatisfactory. They either end in a highly exasperating fashion, just at the most interesting part of an attractive narrative, or they are descriptive of something hopelessly impossible. The dream above referred to may be said to belong to the latter category. There is, of course, nothing impossible in the idea that we should some day have an *embarras des riches* of advertisements. But it is quite im-

possible to believe that we should ever refuse any of these necessary announcements, which are not of an objectionable character.

During the past quarter certain changes have taken place in the staff of the West London Hospital. Owing to the resignation of the Physician for Diseases of Women, Dr. Albert Venn, this post became vacant, and at a meeting of the Board of Management, Dr. J. Mansell-Moullin, the Assistant Physician for Diseases of Women, was elected to the full staff. The promotion of Dr. Moullin created a vacancy in the out-patient department, and this was filled by the election of Dr. Drummond Robinson, who some years ago was one of the House Physicians at the Hospital. There are now two members of the staff who within recent years have filled one or other of the resident posts.

It was with great regret that the members present at the Annual Meeting in July last received, from the chair, the announcement that owing to sudden illness the President had found it impossible to be present, and discharge, for the last time during the session, the duties of his office. It is especially worthy of note that this was the only occasion upon which Dr. Symons Eccles, either at Council meetings, meetings of the various committees, and the ordinary and special meetings of the Society, had failed to be present and occupy the chair. In his absence at the Annual Meeting Dr. Sutherland worthily officiated.

The new President, Mr. Bruce Clarke, who comes into office on October 1, is well known to the majority of the members, and his unanimous election at the annual meeting testified plainly to the feeling, paramount among the members, that he would prove himself to be the right man in the right place. But, well provided as we are in this regard for the next twelve months, there is no doubt that the question of the presidential succession is likely to become a difficult one to solve in the near future. More need not be said upon this subject at present, although it has already been somewhat freely discussed.

At the expense of some little trouble the minute-books of the Society have been overhauled with a view to ascertaining the year in which each member was elected. The result of this somewhat interesting investigation will be found recorded opposite the names of the members in the new list published on another page.

DURING the past session the Society have lost three members through death—Mr. Chippendale, Dr. Gomer Davies, and Dr. Launcelot Andrews. Of these, perhaps, Dr. Davies was the best known to the members. At one time he was a fairly regular attendant at the meetings, but, so far as our information goes, he never read a paper or took part in any of the discussions. Of Mr. Chippendale, it may be said that he truly died full of years, for at the time of his death he was the oldest qualified medical practitioner in England. His age prevented him from undertaking any active work for the Society; but he nevertheless displayed great interest in its foundation, and a few years ago he made a large presentation of medical journals to the Library. The untimely death of Dr. Launcelot Andrews, a young member of the profession, who had shown much promise of a bright and successful career, came as a great shock to a large circle of friends. Of his many good qualities he has left vivid memories among those who knew him best; and the widespread regret with which the announcement of his death was received showed the popularity which he enjoyed.

PAROXYSMAL TACHYCARDIA.—H. Loeser (*Virchow's Archiv für pathologische Anatomie u. für klin. Med.*, Bd. cxliii., Heft 3) says tachycardia, or rapid action of the heart, occurs as a symptom in many diseases, but occasionally cases of tachycardia occurring in paroxysms are met with in which there is no indication of any primary disease.

ABNORMAL LABOUR PAINS.—Dr. Schaeffer, of Heidelberg, makes a classification in labour pains—those that are purely atonic and those which are partially spasmodic. The most frequent cause of the partially tetanic pains is endometritis of the cervix, which results in a slowed first stage and consequently increased suffering; another cause is the frequent examinations made and irritation which they produce; abnormal position of the uterus may also produce them. In this condition it is not necessary to rupture the membranes, for they usually rupture without special delay. Treatment consists in placing the patient in favourable posture, the use of warm baths, and hot vaginal douches. For weak pains, when simple atony of the uterus is present, small hypodermic injections of ergotin are found useful, producing an effect in about eight minutes after administration.—*Centralblatt für Gynäkologie*, No. 4, 1896.

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